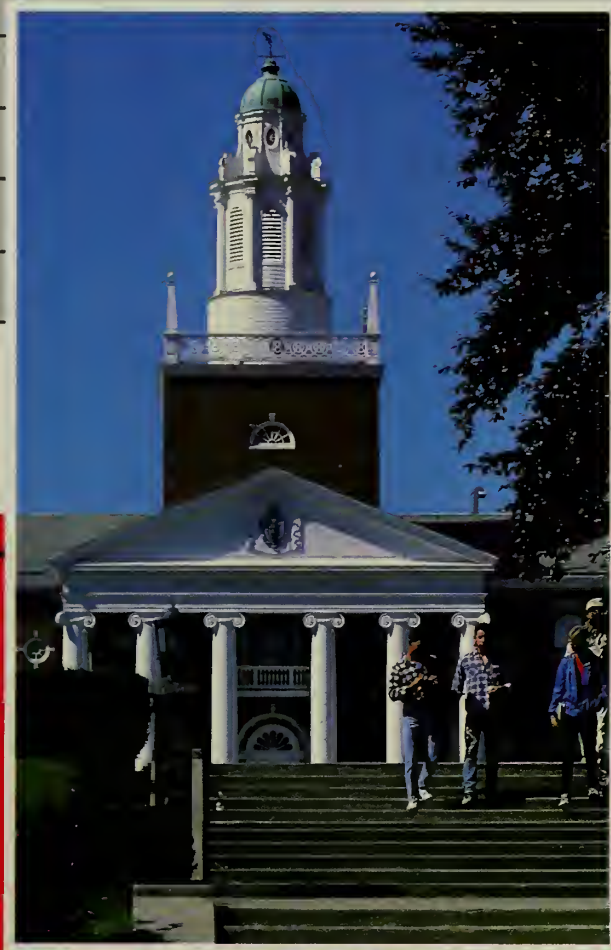




BRIDGEWATER
STATE COLLEGE



UNDERGRADUATE/GRADUATE
Catalogue 1987-1988

Calendar

1987-1988

Fall Semester — 1987

September

- 1,2 (Tues. & Weds.) Registration/Orientation Day
- 7 (Monday) Labor Day — No Classes
- 8 (Tuesday) Orientation
- 9 (Wednesday) Classes Begin at 8:00 a.m.
- 23 (Wednesday) Fall Convocation — 3:00 p.m.
- 25 (Friday) Last day for graduate students to file request for November Comprehensive Examinations

October

- 1 (Thursday) Last day for receiving completed master's degree and CAGS applications for November admissions
- 10 (Saturday) Graduate Record Examination, Lecture Hall, Conant Science Building
- 12 (Monday) Columbus Day — No Classes
- 23 (Friday) End of First Quarter

November

- 2-30 Graduate Comprehensive Examinations
- 2 (Monday) Last day for graduate students who expect to receive their degree in February to file the appropriate degree application form
- 11 (Wednesday) Veterans Day — No Classes
- 25 (Wednesday) Thanksgiving Recess begins at the close of classes
- 30 (Monday) Classes resume at 8:00 a.m.
Last day for graduate students who anticipate the completion of degree work in May to file the Petition for Acceptance of Transfer Credit

December

- 12 (Saturday) Graduate Record Examinations, Lecture Hall, Conant Science Building
- 14 (Monday) First Semester Classes End
- 15 (Tuesday) Reading Day — No Classes
- 16 (Wednesday) First Semester Examinations Begin
- 23 (Wednesday) First Semester Examinations End
- 24 (Thursday) Snow Day — Final Examinations

Spring Semester — 1988

January

- 12,13 (Tues. & Weds.) Registration/Orientation
- 18 (Monday) Martin Luther King Day — No Classes
- 19 (Tuesday) Classes begin at 8:00 a.m.

February

- 1 (Monday) Last day for graduate students who expect to receive their degree in May to file the appropriate degree application forms;
Last day for graduate students to file request for April Comprehensive Examinations
- 3 (Wednesday) Winter Commencement
- 15 (Monday) Washington's Birthday — No Classes
- 16 (Tuesday) Monday Schedule of Classes

March

- 11 (Friday) End of Third Quarter — Spring Recess
- 21 (Monday) Classes resume at 8:00 a.m.
- 31 (Thursday) Last day for receiving completed master's degree and CAGS applications for May admissions

April

- 1-30 Graduate Comprehensive Examinations
- 18 (Monday) Patriot's Day — No Classes
- 20 (Wednesday) Monday Schedule of Classes

May

- 2 (Monday) Last day for graduate students who expect to receive their degree in August to file the appropriate degree application forms;
Last day for graduate students who anticipate completion of degree work in August to file the Petition for Acceptance of Transfer Credit
- 3 (Tuesday) Second Semester Classes End
- 4,5 (Weds. & Thurs.) Reading Day — No Classes
- 6 (Friday) Second Semester Examinations Begin
- 13 (Friday) Second Semester Examinations End
- 21 (Saturday) Commencement

Bridgewater State College

Undergraduate/Graduate Catalogue

1987-1988

Accreditation and Approval

The New England Association of Schools and Colleges, Inc.
The National Council for the Accreditation of Teacher Education
The American Chemical Society
The Interstate Certification Compact
The Council on Social Work Education

Memberships and Associations

The American Association of State Colleges and Universities
The American Association of Colleges for Teacher Education
Association for School, College, and University Staffing (ASCUS)
College Placement Council
Council for Advancement and Support of Education (CASE)
Federal Aviation Association (FAA) certification for approved
Pilot Ground School
The Council of Graduate Schools in the United States
The Northeastern Association of Graduate Schools
The Association of Graduate Deans of Northeastern State Colleges
Massachusetts System of Public Higher Education Institutions

This Catalogue is a guide for information only and not a contract. The College reserves the right to change requirements for degrees, prerequisites, fees, scheduling, and related matters. Every effort is made to implement such changes in such a way that any new curricular requirements will work no hardship on a student who has entered under an earlier set of requirements.

Table of Contents

This is Bridgewater State College

Introducing Bridgewater	5
Undergraduate Majors	6
Graduate Programs	6
Certificate Programs	6
Our Mission	7
History of the College	8

The Academic Experience

Introduction	9
The Faculty	10
Learning Resources	10
Orientation for New Students	11
The Academic Advising Center	11
Enrichment Program	12
Honors Program	13
Internships	13
Study Abroad	14
Directed Study	14

Cultural, Social, Athletic, and Recreational Activities

Introduction	15
Campus Center	15
Clubs and Organizations	16
Religious Life	16
Varsity Athletics	16
Intramural Program	17

Services to Students

Introduction	18
Career Planning and Placement	18
Children's Center	18
Counseling Center	19
Food Services	19
Health Services	19
Insurance	19
International Student Center	20
Physically Challenged and Learning Disabled Students	20
S.C.O.P.E.	20
Transportation	20
Veterans Affairs	20

Campus Life

Introduction	21
Alumni Day	21
Archaeological Excavations	21
Canadian Studies	21
Children's Physical Developmental Clinic	21
Children's Theatre	22
Commencement	22

Convocation	22
Firefighter Fitness Center	22
Heritage Day	22
Homecoming	22
Honors Day	22
Management Science and Technology Council	22
Minority Awareness Day	22
New Bedford Harbor P.C.B. Study	23
Open House	23
Orientation for New Students	23
Parents Weekend	23
Presidential Lecture Series	23

The Campus of Bridgewater State College

The Campus	24
------------	----

Housing

Residential Living	26
Off-Campus Housing	27

The Program of Graduate and Continuing Education

	28
--	----

Admissions

Freshman Admissions	29
Early Decision	31
Transfer Admissions	31
Commonwealth Transfer Compact	32
Readmission	32
Special Students	33
Special Admissions Programs	33
International Admissions	33
Program for Registered Nurses	34
New England Regional Student Program	34
Health	34
Advanced Standing	34
Second-Degree Option	34
College-Level Examination Program (CLEP)	34

Tuition and Fees — 1987-1988

Day Session	36
Program of Graduate and Continuing Education	37

Financial Aid

Introduction	39
Pell Grant Program	39
Supplemental Educational Opportunity Grant Program (SEOG)	39
Perkins Loan Program	40
Guaranteed Student Loan Program	40
The College Work Study Program (CWSP)	40

Student Employment Referral Service (SERS)	40
Tuition Waiver Program	40
Massachusetts State Scholarship Program	40
Adult Learner Program (ALP)	40
Massachusetts Education Employment Program (MEEP)	40
Massachusetts Part-Time Grant Program	40
Christa McAuliffe Teacher Incentive Grant Program	40
Presidential Scholars Tuition Waiver	40
Alternative Loan Programs	41
Alumni Scholarships	41
Graduate Assistantships	41
Other Scholarships	41
Other Employment Opportunities	41
Army Reserve Officers Training Corps	41

Academic Programs

Bachelor of Arts/ Bachelor of Science	42
Bachelor of Science in Education	42
Major	42
Double Major	42
Concentration	43
Minor	43
Directed Study	44
Internship	44
Honors Program	44
Multidisciplinary Programs	45
Cross Registration	45
General Education Requirements	46

Academic Policies

Graduation Requirements	49
Degree Application	49
Graduation with Honors	49
Grading System	50
Dean's List	50
Academic Standing	50
Satisfactory Academic Progress	51
Class Year Designation	51
Registration	51
Course Loads	51
Attendance Policy	51
Course Drops and Adds	51
Withdrawal From Courses	52

Course Audit	52
Withdrawal From College	52
Declaration of Major for Freshmen	52
Change of Major for Upperclassmen	52
Declaration of Minor	52
Credit by Examination	52
Transfer of Credit After Admission	53
Plagiarism	53
Standards for Representing the College	53
Dismissal Policies	53

The Graduate School

Post-Bachelor's Teacher Certification Programs	54
Graduate Programs	
Master of Arts	55
Master of Arts in Teaching	55
Master of Education	55
Master of Science	55
Certificate of Advanced Graduate Study	55
Doctor of Education	56

Admissions

Application Procedures	56
Action by the Division/Department	58
Action by the Graduate School	58
Graduate Advisors and Program Planning	58
Change in Program	58

General Policies and Procedures

Change of Name and/or Address	59
Deadlines	59
Time Limits — Program and Course	59
Course Registration	59
Program and Course Prerequisites	59
Grading System	59
Withdrawal from Program	59
Academic Dismissal	59
Graduate and Undergraduate Credit	60
Transfer Credit	60
Graduate Assistantships	61
Independent Study	61
Thesis	61
Comprehensive Examination	61
Application to Graduate	62

Graduate Program Requirements

Master of Arts	62
Master of Arts in Teaching	63
Master of Education	64
Master of Science	64
Certificate of Advanced Graduate Study (CAGS)	64
Doctor of Education	65

Program and Course Offerings

General Information	66
Course Numbering System	66
Prerequisites	66
Semester Notations	66
Meeting Times	67

Division of Behavioral Sciences

Undergraduate Programs	68
Graduate Programs	68
Divisional Course Offerings	69

Division of

Humanities and Creative Arts

Undergraduate Programs	70
Graduate Programs	70
Divisional Course Offerings	71

Division of Natural Science and Mathematics

Undergraduate Programs	72
Graduate Programs	72
Divisional Course Offerings	73

Division of Professional Education

Introduction	74
Admission to and Retention in Professional Education	
Undergraduate	76
Graduate	77
Certificate of Advanced Graduate Study (CAGS)	78
University of Massachusetts at Amherst Collaborative Doctor of Education Program	78
Divisional Course Offerings	79

Division of Social Sciences

Undergraduate Programs	80
Graduate Programs	80
Divisional Course Offerings	80

Department of Art

Department of Biological Sciences

Department of Chemical Sciences

Counseling Programs

Department of Earth Sciences and Geography

Department of Economics

Educational Leadership and Administration

Department of Elementary and Early Childhood Education

Department of English

Department of Foreign Languages

Department of Health, Physical Education and Recreation

Department of High School, Middle School, and Adult Education

Department of History

Department of Management Science and Aviation Science

Department of Mathematics and Computer Science

Department of Media and Librarianship

Department of Music

Department of Philosophy and Religious Studies

Department of Physics

Department of Political Science

Department of Psychology

Department of Social Work

Department of Sociology and Anthropology

Department of Special Education

Department of Speech Communication, Theatre Arts, and Communication Disorders

Introductory College Skills

Undergraduate, Multidisciplinary and Pre-Professional Programs

Board of Trustees

Administrative and Other College Offices

Maxwell Library Staff

Faculty

Emeritus Faculty

Index

Directions for Correspondence

Policy on Non-Discrimination and Affirmative Action

As part of the Massachusetts Public Higher Education System, Bridgewater State College is committed to a policy of non-discrimination and affirmative action in its educational programs, activities, and employment practices. It is the policy of the College not to discriminate on the basis of race, sex, color, national origin, age, religion, or handicap, in fulfillment of the requirements of Executive Orders 11246 and 11375, Titles IV, VI, VII, IX and X of the Civil Rights Act of 1964 as amended in 1972, and all pertinent Laws, Regulations, and Executive Directives of the Commonwealth of Massachusetts and other applicable state and federal statutes. Inquiries concerning the College's compliance with Affirmative Action programs may be addressed to Assistant to the President, Affirmative Action/Minority Affairs, Bridgewater State College, Bridgewater, MA 02324. Telephone (617) 697-1241, or write to the Office for Civil Rights, Washington, D.C.



This is Bridgewater State College

Introducing Bridgewater

Since its founding in 1840, Bridgewater State College has offered its select student body exceptional opportunities for learning and maturing. Bridgewater is a place where students are encouraged to grow intellectually, to explore wide areas of knowledge and their own potential, nurtured and guided by a gifted faculty of men and women who sustain the College's reputation for academic excellence.



The following is a profile of Bridgewater State College at the 147th anniversary of its founding:

- **Location:** Bridgewater, Massachusetts, approximately 28 miles south of Boston in historic Plymouth County.
- **Character:** State-supported, four-year, co-educational.
- **Students:** 5,600 full-time undergraduate students are currently enrolled. In addition, approximately 1,500 graduate students are enrolled in the Program of Graduate and Continuing Education, which offers an extensive program of late afternoon, evening and weekend courses for part-time undergraduate and graduate learning as well as personal enrichment. Total enrollment in all programs, year-round, exceeds 12,000 people.
- **Faculty:** 280 full-time faculty members of whom 70% hold earned doctorates.
- **Campus:** 26 academic and residential buildings on a 170-acre campus. Two new residence halls are under construction.
- **Tuition and Fees (1987-1988 academic year):** Full-time undergraduate students who are Massachusetts residents pay approximately \$936.00 per year in tuition and approximately \$400.00 in required fees. Students residing on campus are charged between \$1,240.00 and \$1,540.00 per year, depending on the facility occupied. Board for resident students is approximately \$1,140.00 per year. Please note that all figures are subject to change. For complete information on tuition and fees for all students, see the section of this catalogue entitled "Tuition and Fees".

- **Undergraduate Majors:** Twenty-seven undergraduate majors are currently offered. For more detailed information, see requirements listed in the appropriate department of this catalogue.

ANTHROPOLOGY

(one may concentrate in):
Cultural Anthropology
Public Archaeology

ART

(one may concentrate in):
Commercial Art

AVIATION SCIENCE

(choose one concentration):
Flight Training
Aviation Management

BIOLOGY

BUSINESS - see

Management Science

CHEMISTRY

PROFESSIONAL CHEMISTRY

(one may concentrate in):
Biochemistry

CHEMISTRY-GEOLOGY

COMMUNICATION ARTS & SCIENCES

(choose one concentration):
Speech Communication
Theatre Arts

Communication Disorders

COMPUTER SCIENCE

EARLY CHILDHOOD EDUCATION

EARTH SCIENCES

(one may concentrate in):
Geology

ELEMENTARY EDUCATION

(one may concentrate in):
Middle School Education

ENGLISH

(one may concentrate in):
Writing

FRENCH

GEOGRAPHY

HISTORY

(one may concentrate in):
Community History

MANAGEMENT SCIENCE

(choose one concentration):
General Management
Energy & Environmental Resources
Finance & Accounting
Marketing
Transportation
Information Systems
Management

MATHEMATICS

PHILOSOPHY

PHYSICAL EDUCATION

(choose one concentration):
Athletic Training
Coaching
Exercise Science/
Health Fitness
Health
Motor Development Therapy/
Adapted Physical Education
Programs for Children and Youth
Recreation

PHYSICS

(choose one concentration):
Computer Electronics
POLITICAL SCIENCE
(one may concentrate in):
Public Administration
International Affairs
Legal Studies

PSYCHOLOGY

(one may concentrate in):
Industrial-Personnel
Psychology
Medical Psychology

SOCIAL WORK

SOCIOLOGY

(one may concentrate in):
Criminology
Third World Studies

SPANISH

SPECIAL EDUCATION

- **Graduate Programs:** Thirty-eight master's degree and CAGS (Certificate of Advanced Graduate Study) programs are offered, plus a Collaborative Doctoral Program with the University of Massachusetts. For complete information see "The Graduate School" section of this catalogue.

Master of Arts (M.A.)

Biology
Chemistry
Communication Studies
English
History
Humanities
Psychology

Master of Arts in Teaching (M.A.T.)

Behavioral Sciences
Biology
Creative Arts
Chemical Sciences
Earth Sciences
English
Foreign Languages
Geography
History
Humanities
Mathematics
Physical Sciences
Physics
Social Sciences
Speech Communication and Theatre

Master of Education (M.Ed.)

Counseling
Early Childhood Education
Elementary Education
Elementary School Mathematics
Health Promotion
Instructional Media
Reading
School Administration
School Librarianship
Special Education

Master of Science (M.S.)

Computer Science
Physical Education

Certificate of Advanced Graduate Study

Behavioral Sciences
Creative Arts
Education
Natural Sciences and Mathematics

University of Massachusetts at Amherst Collaborative Doctor in Education Program

- **Certificate Programs:** The Program of Graduate and Continuing Education offers Certificate Programs in:

Accounting/Finance
Management
Marketing Management
Computer Science
Paralegal Studies

Media Studies
Substitute Teachers and Instructional School
Aides at the Elementary or Early Childhood Levels

Also, a Graduate Certificate of Special Studies in Administration and Management Program is offered.

Our Mission

First and foremost, Bridgewater State College offers its students a quality education, made possible by an excellent faculty dedicated to teaching, advanced facilities and resources for learning, and a concern for the welfare and well-being of the individual student.

The liberal arts are the cornerstone of the entire academic enterprise at Bridgewater. A liberal education is called "liberal" because it liberates us from the narrowness of our single time and place and catapults us into larger worlds of human experience. It centers on a commitment to learning — a belief in the value of study for its own sake. Intellectual curiosity, the desire to understand and to grow by understanding, is thus at the heart of the Bridgewater experience. A liberal education will not simply prepare students to make a living (though it will do that); it will prepare the student to live.

The goal of a liberal education is to help students become independent, productive and thoughtful human beings — to reach beyond their private interest and place their own lives in a larger context.

At Bridgewater, every student completes a body of studies referred to as the "General Education Requirements." These are courses in writing, philosophy, history, literature, science, foreign languages, and the arts. Such courses draw us together as people by providing a broad knowledge of our cultural and intellectual heritage while at the same time introducing us to the richly varied "ways of knowing" that characterize the different academic disciplines. This is what is emphasized during the first two years of college, and then typically, the student builds on the base by pursuing more intensive studies in a particular field.

The objective is to combine the specialized knowledge of the major with insight, wisdom, and compassion gained from an understanding of the total human enterprise.

Bridgewater State College also offers a variety of student life activities rich in depth and scope. There are more than 70 student clubs and organizations here, and some 60 intercollegiate and intramural athletic teams that help round out the collegiate experience.

This is a community of people sharing their talents and energy, a warm and caring environment which reflects our philosophy that college years can be, and should be, years of adventure and happiness, full of fresh ideas and positive achievements.

The College has always had high expectations of its students. They, in turn, have high expectations of Bridgewater.

Bridgewater State College from its beginning has been dedicated to the tradition of excellence and public service. Its goal has been to provide access to higher education for qualified students without regard to social or economic circumstances in order to enable them:

1. To know themselves so that they can discover their aptitudes, develop their interests, and build a sound value system;
2. To formulate and articulate their thoughts clearly and precisely;
3. To grow intellectually and emotionally through their educational experiences so that they may live full and meaningful personal and professional lives as contributing members of society.



History of the College

In 1839 Bridgewater was one of the first three public colleges incorporated by the Massachusetts Legislature, and the first class of 28 students was welcomed by Principal Nicholas Tillinghast on September 9, 1840.

Daniel Webster, John Quincy Adams, and Horace Mann were among the early staunch supporters of the school, which had been founded to prepare teachers for the public schools of the Commonwealth.

In a real sense, Bridgewater and America have grown up together. When the school opened in 1840 the United States was still a young, struggling nation with vast areas still to be explored and settled. In those early years Bridgewater graduates traveled west along the frontier, establishing schools and colleges.

The first home of Bridgewater State College was in the basement of the Town Hall, where it remained until 1846, when a permanent building was constructed. This was the first building erected in America for the preparation of teachers.

Tillinghast remained principal until 1853, when he was succeeded by an engineer and scientist named Marshall Conant, who remained principal until 1860. In that year Albert G. Boyden, a former student under Tillinghast and an assistant teacher under Conant, was appointed head of the school. He remained in that position for 46 years, to be succeeded by his son, Arthur Clarke Boyden.

The Boyden era spanned a remarkable total of 73 years in the history of the College. During those years the school grew in enrollment, physical facilities, and reputation as an outstanding teacher training institution.

Following the Boyden administrations, each of the succeeding presidents, Dr. Zenos Scott (1933-1937), Dr. John Kelly (1937-1951), Dr. Clement Maxwell (1952-1962), and Dr. Adrian Rondileau (1962-1986) helped strengthen and enhance the College.

In 1921 Bridgewater was one of five state normal schools empowered to award the Bachelor of Science in Education degree. In 1932 the school became Bridgewater State Teachers College and in 1937 the College began offering graduate courses. A full-fledged, multipurpose Liberal Arts curriculum was introduced in 1960 and the degree of Bachelor of Arts was added.

The College has grown to 5,600 full-time undergraduates, and the undergraduate program has expanded to 27 majors. The Graduate School today offers 38 Master's and Certificate of Advanced Graduate Study (CAGS) programs, plus a collaborative Ed.D. program in School Leadership and Administration with the University of Massachusetts at Amherst. The number of faculty has also grown in recent decades. Now approximately 280 men and women comprise the fulltime faculty at Bridgewater.

While maintaining a strong Liberal Arts emphasis and historical strength in Teacher Education, Bridgewater State College has expanded significantly into several professional fields, such as Social Work, Computer Science, Aviation Science, and Management Science.

In his first address to the faculty and staff at the beginning of the 1986-1987 academic year, President Gerard Indelicato pledged his best effort to help make Bridgewater "the Best State College in America," and reminded his colleagues of the principles on which Bridgewater was originally founded. President Indelicato referred to Horace Mann, the great education pioneer, who said nearly 150 years ago that the State Colleges "should be good enough for the richest and available to the poorest." That combined emphasis on excellence and access continues to guide Bridgewater State College today.



The Academic Experience

Introduction

Small classes, a superb faculty, the extensive resources of the Maxwell Library, modern equipment and facilities, and a supportive network of advisors and counselors are the key elements of the academic environment at Bridgewater State College.

Combined with these are a wide variety of cultural, social, athletic, and recreational activities which complement the learning process and add different dimensions to the total academic experience.

The College has a commitment to the success of its students. The faculty and staff strive to help each student achieve his or her full potential. The College's long tradition of academic excellence is built upon a foundation of challenging studies, a stimulating atmosphere, and a spirit of community and partnership. The rewards of success are both personal and professional; the friendships one makes, and the opportunities for growth discovered, can last a lifetime.

Recognizing that a narrow focus of learning is a serious threat to a student's economic and intellectual future, Bridgewater expects all students to pursue common patterns of study in addition to a major field of study.

Advancing technology, moving at breathtaking speed, adds infinite amounts of new information. The ability to assimilate complex ideas from a variety of sources requires fundamental knowledge in different areas of history, science, the arts, literature, languages, and philosophy as well as specialized, in-depth skill in one major area.

Done correctly, a college education should provide a person with broad information of lasting value no matter what vocation that man or woman pursues. Since studies reveal that today most people change careers as many as five times during their working lives, the importance of this foundation is obvious.

The liberal arts are the core of the Bridgewater experience. Every student, no matter what major field is selected, completes what are called the "General Education Requirements". These are areas of knowledge and understanding that are of general significance. This exposure to broad fields of learning is a foundation for specific studies in a student's major field. Usually, most Bridgewater students complete the "GER's" during the first two years of college and spend the last two years in their major field of study. An important part of this emphasis — in the "GER" courses and in courses in the major field — involves writing and improving writing skills.

Our chief instrument of communication over time and space is language. The ability to express our ideas and react to the ideas of others is rooted in language skills. Technology has accelerated dramatically the need for people who can communicate quickly, clearly, and effectively.



No matter what his or her specialty may be, today the person who can write with confidence and skill has far more opportunity to be useful and successful than those who can't. In survey after survey, business executives rank proficiency in communication skills as the most important an employee can possess.

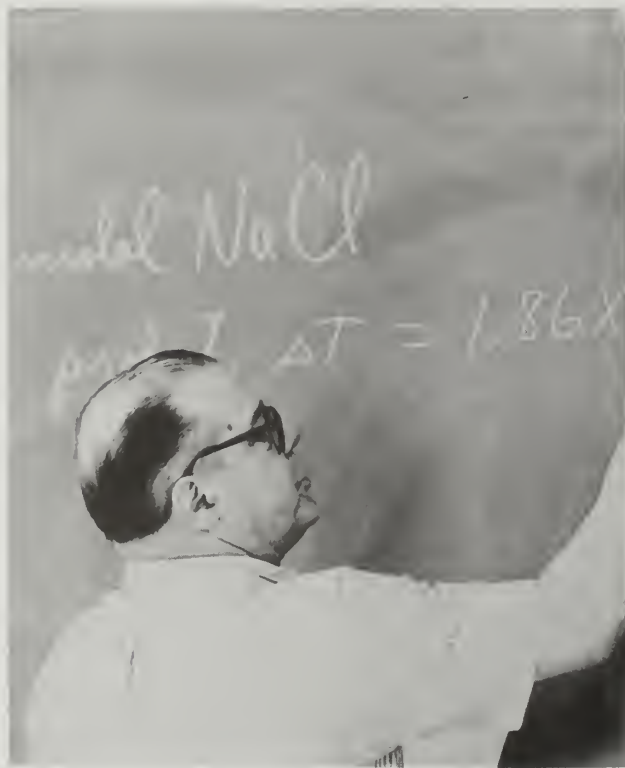
That's why the teaching, practice, and improvement of writing is emphasized so heavily at Bridgewater. Courses in all disciplines have writing components and, by the end of the junior year, we require students to pass an examination demonstrating their writing skill. A student's ability to write clearly and effectively is one of the primary objectives of the general education program at Bridgewater.

We believe firmly in our obligation to prepare students for the world they will encounter and the demands and expectations they will confront.

The College has a rich and varied array of majors, minors, and program options. For the undergraduate student, there are more than 100 such possibilities to help prepare for a career.

The academic experience available to students at Bridgewater State College may be summed up in a few words:

Challenging . . . Comprehensive . . . Flexible . . .
Opportunities . . . Outstanding.



The Faculty

Bridgewater State College has an outstanding faculty of men and women who take their responsibility for teaching seriously. Because nearly all classes are small (the average class size is less than 30 students), there are ample opportunities for faculty and students to work closely. Many students assist faculty in research projects outside the classroom as well.

Bridgewater State professors are recognized for their expertise. More than 70% hold earned doctorates and many faculty members serve as consultants and advisors to corporations, banks, health organizations, school systems, and government agencies. Others are leaders in professional societies, conducting pioneering research in their respective fields.

Learning Resources

From the resources of the Maxwell Library - with its 250,000 volumes and subscription to 1,550 periodicals - to the educational and cultural resources possessed by each of the academic support services, the College's commitment to academic excellence is reinforced by the availability of first-class tools for learning and research, accessible to its students and faculty.

The College has extensive computer facilities for instructional purposes (open seven days a week, from early morning to late at night), and resources that range from a Zeiss Electron Microscope in the Department of Biological Sciences and an Astronomy Observatory in the Department of Earth Sciences and Geography to a Writing Laboratory offered by the Department of English and the facilities for weaving, ceramics, sculpture, and painting in the Department of Art, as well as a flight simulator in the Department of Management Science and Aviation Science. These and many other modern resources support the educational mission of the College, and insure that Bridgewater students can learn and apply contemporary knowledge and skills.

Prospective students and their families interested in visiting the College and viewing learning resources are encouraged to contact the Admissions Office for dates of campus visitations.

Orientation for New Students

Orientation for freshmen and transfer students is really an introduction to the complete campus environment - academics, student services, extracurricular opportunities, and the college itself. Most of our new students attend Orientation in late May or early June.

Orientation is the first activity that most of our new students participate in as members of the College Community, and the program is designed to make them (and their parents as well, who are invited for a day) familiar with the campus and comfortable as members of the community.

Orientation provides the chance to meet with members of the faculty and staff, take tours, enjoy recreational programs, learn about resources such as financial aid, academic advising, and other support services, and get acquainted with other new students. During Orientation new students also register for the courses they will be taking in the next semester, guided in their selection by the advising staff.

The Orientation staff includes approximately thirty "Orientation Leaders" — upperclassmen specially selected for this purpose whose demonstrated leadership, academic achievement, and involvement in campus life have qualified them to fulfill this important function of welcoming new students.

The Academic Advising Center

Several years ago Bridgewater State College embarked on a bold new program to help freshmen students adjust to the college environment. The program, which has since drawn considerable comment in professional journals and interest from other schools, is based on our belief that the transition from high school is a complex one, demanding as much individual attention as possible.

Today the Academic Advising Center is solidly established, occupying a suite of offices in a wing of the Maxwell Library. Volunteers from the full-time faculty, plus administrators experienced in helping freshmen, staff the Center. There is always a professional on hand to deal with problems on an "immediate-need basis".

The Center is a home base for all freshmen throughout their first year of college and for all students who have yet to declare their major. During Orientation (see Orientation for New Students) freshmen are introduced to the Center's staff and are made familiar with the resources there. Once the year begins, every freshman will make several visits to the Center, where the staff will review his or her progress on an individual basis and suggest special help if necessary. All freshman students find these conversations beneficial, since the staff is able to answer the questions that arise during the freshman year. During the interviews each student's record is reviewed, discussed, and recommendations for future course selection are shared by the student and the staff.

In cases where a student may be helped by participating in the College's "Enrichment Program," referrals are made by the Center's staff, and located adjacent to the Center are the Reading Laboratory, Writing Laboratory, and Mathematics Laboratory.

Academic advising is an important part of the College's program. Each student is assigned an academic advisor who is a member of the College faculty. The advisor meets frequently with the student to discuss topics such as which courses the student plans to take. If there are any problems or concerns, the advisor can help the student solve them.



Enrichment Program

An "Enrichment Program" is available to help strengthen those skills most essential to effective learning both in college and throughout life.

The program is based on the College's commitment to provide students with every opportunity to build upon strengths they have while correcting any deficiencies. This assistance is provided through specialized courses in English, Mathematics, and Reading, and through resources such as the Reading Laboratory, the Writing Laboratory, and the Mathematics Laboratory. Tutorial assistance is also provided.

Students needing assistance in any of these areas may be referred by the College faculty or staff. A student may also request special help, which the College is pleased to provide.

Courses — Students may enroll in the following courses through regular registration procedures. Please see the course description section of this catalogue for complete descriptions of these courses.

EE 100 Effective Reading — A course dealing with efficient and effective approaches to reading and studying skills at the college level. Students who wish further information about this course should consult with Dr. Peter Bizinkauskas, Reading Laboratory.

EE 101 Speed Reading — A developmental course designed to increase both speed and comprehension in a wide variety of materials. Students who wish further information about this course should consult with Dr. Peter Bizinkauskas, Reading Laboratory.

FS 100 Introductory College Skills: Intrusive Advising — A specialized learning/advising program for freshmen offered by the Academic Advising Center and conducted in a small group setting. Students who wish further information about this course should contact the Academic Advising Center.

FS 101 Introductory College Skills: Writing — The course will consist of an intensive review of basic communication skills, chiefly those of reading and writing. Students who wish further information about this course should consult with Dr. Clifford Wood of the English Department.

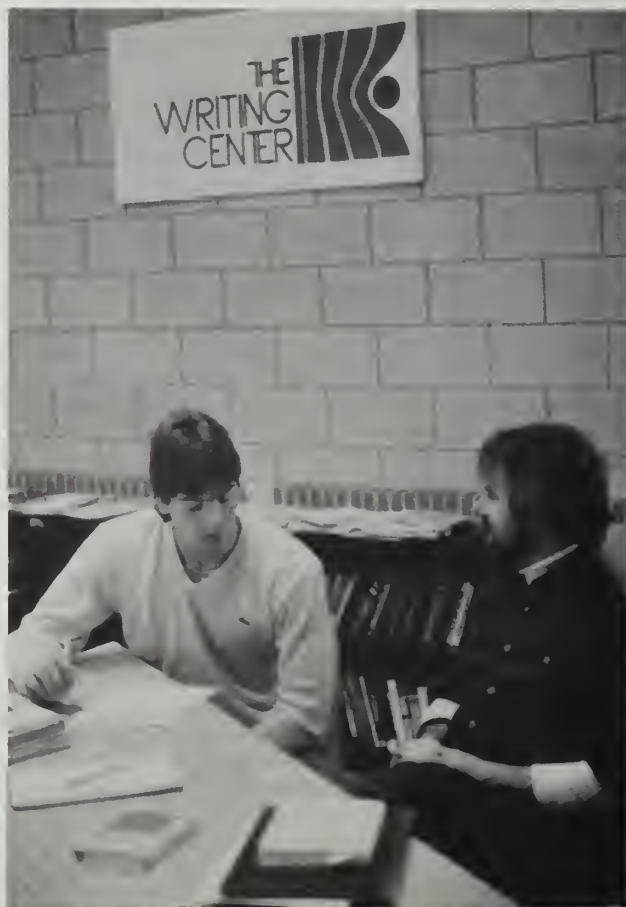
FS 102 Introductory College Skills: Mathematics — Fundamental principles of algebra and geometry. Students who wish further information about this course should consult with Dr. Philip Scalisi of the Department of Mathematics and Computer Science.

Laboratories — Students may enroll in the following laboratory programs by consulting with the directors of the program.

Mathematics Laboratory — The Mathematics Laboratory provides individualized instruction in a laboratory setting with peer tutoring and a variety of resources. Student participation in the Mathematics Laboratory may be voluntary or by referral to Professor Jean Prendergast of the Mathematics and Computer Science Department.

Reading Laboratory — The College Reading Laboratory is available to all students who wish to utilize the services of the Laboratory for the development of their own skills. Students interested in the services of the Laboratory may contact Dr. Peter Bizinkauskas, College Reading Laboratory, Maxwell Library.

Writing Laboratory — The Writing Center at Bridgewater State College offers the student an opportunity for individualized instruction in writing. Student participation at the Writing Center may be voluntary or by referral to Dr. Michael Boyd of the English Department.



Honors Program

The general aim of the Honors Program is to encourage students to do more intensive, independent, and creative work. More specifically, its aims are: to encourage superior and interested students to achieve their fullest intellectual potential through critical thinking, scholarship, and research; to help these students improve their skills in oral and written expression; to present an opportunity for frequent and close association of able students for intellectual exchange among themselves and with faculty members, and to create an atmosphere which fosters intellectual, artistic, and academic achievement. The honors experience may be approached in two ways: All-College Honors and Departmental Honors.

The All-College Honors program begins with a series of Honors Colloquia offered to freshmen and sophomores. Each Colloquium is designed to complement and extend the work in a regularly offered course. Students who complete the required number of Colloquia satisfactorily are eligible for entry into the junior and senior levels of All-College Honors. For further information, please consult the "Honors Program" section of this catalogue.

The following departments are at present participating in the Departmental Honors Program: Biology, Chemistry, Speech Communication, Theatre Arts, and Communication Disorders, Elementary and Early Childhood Education, English, History, Foreign Languages, Mathematics and Computer Science, and Health, Physical Education, and Recreation.

Students in all majors are eligible to graduate with Honors (cum laude, magna cum laude, summa cum laude) if their grades meet the requirements stipulated for each category.

The Dean's List is published by the College at the end of each academic semester.

Internships

Many academic departments at Bridgewater offer students the opportunity for internships. These are usually off-campus in businesses, agencies, schools, hospitals, or other professional settings where students can work side-by-side with experienced professionals, earning academic credit and gaining valuable training and career background.

A student majoring in Computer Science, for example, may intern at a computer firm. A student who is a Communication Arts and Sciences major may intern at an advertising agency or television studio. A Social Work major may intern with a human services agency, a History major at a museum, a Psychology major in a clinic, a Political Science major with a U.S. Congressman or Senator, a Chemistry major with a chemical sciences company, an English major with a publishing firm, and a Management Science major in an accounting, marketing, or financial setting.

Internships are generally available to students in their junior or senior year. This supervised practical experience is explained in detail in the section entitled "Academic Programs". A student pursuing an internship may earn between three and fifteen credits, and this determines the hours one must complete in order to receive credit. For example, a student who elects an internship for three credits is expected to provide evidence of 135 hours of work (a minimum of 45 clock hours for every academic credit) over the course of the semester, according to a schedule agreed to by the company or agency granting the field experience, the student, and the faculty advisor supervising the internship.

Many students have found internships extremely valuable for their professional development. The opportunity to gain extensive, practical experience can often help enhance employment prospects after graduation.

Study Abroad

With the College's approval, students may complete one or both semesters of their junior year abroad at the university of their choice.

Bridgewater State College and Shanxi University, in the People's Republic of China, have concluded an historic agreement which provides for the exchange of students and faculty between the two institutions. This is one of the pioneer educational exchanges between the United States and China. In addition, new exchange programs with the Republic of China (Taiwan) have been developed.

Bridgewater has one of the strongest Canadian Studies programs in the Northeast. In addition to a variety of courses in Canadian Studies, Bridgewater has an exchange agreement with several universities in Quebec, including Laval University and McGill University.

The College has entered into an exchange program with the University of Oldenburg, West Germany and Crewe-Alsager College of Higher Education in England.

Directed Study

The College encourages students to pursue certain of their interests through Directed Study. Such an undertaking involves independent thinking, hard work, and creativity along with the guidance and help of a faculty member. The end result should be a paper or project accepted by the faculty member working with the student.

For more information please consult the catalogue section entitled "Directed Study".



Cultural, Social, Athletic, and Recreational Activities

Introduction

The College offers students a full social, cultural, athletic, recreational, and religious life. Art exhibits, lectures, concerts, movies, plays, workshops, and sports events make for an active campus schedule.

Through programs sponsored by the Campus Center, members of the College Community have an opportunity to attend events featuring significant public figures and internationally acclaimed performing artists. Some of the past guests who have appeared at the College include authors Kurt Vonnegut, James Baldwin, and Gloria Steinem; consumer advocate Ralph Nader; Atlanta Mayor Andrew Young, as well as jazz musician Gary Burton, the Alvin Ailey Repertory Ensemble, the Empire Brass Quintet, and the Chinese Magic Revue.

The Campus Center, Art Building, and Library all feature galleries where interesting exhibits are displayed, and special programs, such as performances by the College Ciorale Society or the Dance Corps are enjoyed by the campus community.

For students who enjoy theatre either as a participant (acting, stage work, or costumes) or as a member of the audience, Bridgewater has much to offer. Major productions are offered by the Ensemble Theatre throughout the year and professional companies perform at the College frequently.

A strong athletic tradition at Bridgewater dates back to the 1850's, and today there are 20 varsity sports and 12 intramural athletic programs. Forty percent of the student body participates in the intramural program and countless other enthusiastic supporters can be counted on the sidelines.

Students, staff, and alumni keep abreast of events and programs through a variety of campus publications. The students newspaper, *The Comment*, and *Bridgewater Today* focus on news and feature stories highlighting campus life and individual achievements. *Bridgewater Today* also maintains a calendar listing college events. The campus radio station, WBIM, provides up to the minute coverage of events plus a full range of musical and special interest programming.

Campus Center

The Adrian Rondileau Campus Center is the focus on campus for a large variety of cultural, social, educational, and recreational programs. From concerts to lectures, movies to plays, folk singers to art exhibits, and dances to minicourses, the Campus Center makes a continuing, substantial contribution to the learning environment and enriches the scope and depth of college life.

The Campus Center is open from early morning to late at night, seven days a week during the academic year, providing 27 types of facilities, including student organization offices, radio station, television studio, study lounges, game room, music room, cafeteria, snack bar and ballroom.

The Campus Center Board of Governors is comprised of 23 members of the College community who work with the Director of the Campus Center to recommend policies for the use of the complex. The major subcommittee of the Board is the Program Committee, comprised of 24 student members who develop, plan, and implement the many events and programs the Campus Center offers.



Clubs and Organizations

A number of clubs and organizations have been formed to meet the wide diversity of recreational, social, cultural, political, and service needs of the Bridgewater community.

- **Clubs and organizations with an academic focus include:**

Accounting and Finance Club	Library Science Club
Alpha Eta Rho -	Mathematics and Computer
Phi Beta Sigma	Science Club
American Marketing	National Student Speech
Association	and Hearing Association/
American Production and	Communication Disorders
Inventory Control Society	Club
Anthropology Club	Philosophy Club
Aviation Club	Physics Club
Biology Club	Pi Upsilon Pi
Chemistry Club	Political Science Club
Collegiate Alliance for	Pre-Med Society
the Study of Human	Psychology Club
Performance	Slavic/German Club
Communications Club	Society for the Advance-
Early Childhood	ment of Government
Education Association	and History
Earth Sciences and Geography	Society for the Advance-
Club	ment of Management
English Club	Science
French Club	Sociology/Social Work Club
Health, Physical Education,	Spanish Club
and Recreation Club	Student Council for
History Club	Exceptional Children
Law Club	

- **Several departments invite academically talented students to join nationally recognized honor societies:**

Kappa Delta Pi (Education)	Pi Mu Epsilon (Mathematics)
Phi Alpha Theta (History)	Psi Chi (Psychology)

- **Some special interest clubs serve the needs of different campus populations or serve by working on projects to benefit the College community:**

Afro-American Society	Off Campus/Commuter
Alpha Upsilon Fraternity	Student Association (O.C.S.)
Campus Center Board of	Phi Pi Delta Fraternity (co-ed)
Governors and Program	Physically Challenged
Committee	Student Organization
Class Government	Residence Hall Government
Delta Psi Rho Sorority	Sigma Chi Fraternity
GALA	Social Action Club
Greek Council	Student Alumni Relations
International Club	Association
Iota Phi Theta Fraternity	Student Government
Little Sisters of Sigma Chi	Association
OASIS (Older than Average	Women's Center
Students in School)	Zeta Gamma Rho Fraternity

- **For students whose interests lie in the area of music, drama, art, or debate, a number of organizations may be of interest:**

Americana Singers	Dance Corps
Arts for All	Ensemble Theatre
Bridgewater Arts Review	Forensic Society
Campus Center	Marching Band
Program Committee	Orchestra
Chamber Singers	Stage Band
Chorale Society	The Comment
Concert Band (Spring 1988)	student newspaper
The College Yearbook	WBIM Radio Station

- **For those athletically inclined, there are, in addition to strong intercollegiate and intramural programs, a variety of activities such as club or recreational swimming, bowling, bicycle trips, ski trips, water polo, karate, flag football, street hockey, soccer, basketball and volleyball which are sponsored by the following organizations:**

Bridgewater Association for	Campus Center Program
Intramurals, Recreation,	Committee
and Sports	

Religious Life

The campus provides opportunities for formal religious study as well as individual participation in worship, bible study, and purposeful community service. The Catholic Center, Protestant Campus Ministry and Menorah Club contribute to our understanding and appreciation of various religious perspectives.

Varsity Athletics and Intramural Program

Bridgewater State College currently fields 20 intercollegiate varsity sports teams. The College is a member of the National Collegiate Athletic Association (NCAA) Division III, the Eastern Collegiate Athletic Conference (ECAC), and the Massachusetts State College Athletic Conference (MASCAC).

Varsity sports currently include:

Baseball	Soccer (men and women)
Basketball (men and women)	Softball
Cross-Country (men and women)	Swimming (men and women)
Field Hockey	Tennis (men and women)
Football	Track and Field (men and
Gymnastics (women)	women)
Junior Varsity Football	Volleyball
Lacrosse (women)	Wrestling

Please see page 53 for specific information on requirements intercollegiate athletes must meet.

Intramural Program

The intramural program attracts participants from approximately 40% of the student body. Active leagues made up of resident and commuter students, fraternity and sorority members, and representatives of other campus student groups compete each semester.

The intramural program includes the following sports:

Basketball (men and women)	Softball (co-ed and men)
Flag Football (men and women)	Street Hockey (men)
Floor Hockey (men)	Volleyball (co-ed, men,
Indoor Soccer (co-ed)	and women)



Services to Students

Introduction

Throughout a college career, students are faced with numerous options which involve making adjustments, wise decisions, and intelligent plans. One may have questions and concerns about topics such as housing, finances, health, full-time work, academic programs, post-college study, or career goals.

These and similar important questions are explored by students working with our staff of dedicated professionals involved in the major areas of student development. A wide range of activities is provided to complement and personalize the academic experience for each student.

The Division of Student Services provides specific assistance in areas such as career counseling, off and on-campus housing, health services, social activities, disabled student advocacy, veterans programming, athletics, and international education. A central responsibility of all staff is to be available to provide individual and small group supportive counseling for each student.

In this section of the Catalogue we introduce you to the key services which are available to students enrolled at Bridgewater State College.

Career Planning and Placement

The services of the Career Planning and Placement Office, located in the Campus Center, are available to all officially enrolled students and alumni. Notices of full-time employment opportunities are maintained and a staff of career counseling professionals is available to discuss career options, offer interest assessment and assist with the design of internships and other pre-vocational career opportunities.

Specifically, the Career Planning and Placement Office helps students to obtain information about a wide range of career opportunities, and has developed an extensive library of career materials including brochures from graduate and professional schools and directories on internships, overseas study and major employers.

All students are encouraged to visit the office, become acquainted with its services, and begin to utilize the resources available early in their college experience.

Children's Center

In September 1987, Bridgewater State College will open a model children's center on the campus providing pre-school educational programs for children of students and members of the College staff who are between two years nine months and seven years of age. The Center will enhance opportunities for adult students to take advantage of college educational programs while providing their children with the best in professional child care at a reasonable cost. The Center offers flexible hours and services to meet student, faculty and staff schedules. For information and enrollment materials please contact the Office of Student Services in Boyden Hall.

Counseling Center

The College is concerned with the personal, academic and social adjustment of students. Students are often reminded that the college years are supposed to be "the best years of their lives." Indeed, college life does offer new relationships, experiences, and challenges that can contribute to personal growth and development. For many students, however, these experiences bring with them problems and conflicts that seem confusing and at times overwhelming. The Counseling Center can provide the opportunity to work on personal problems and issues with a trained professional who will care, listen, and be interested.

Help may be secured in a number of areas: recognizing personal wants and needs, realizing the importance of both the self and others, valuing the uniqueness of one's talents and abilities, accepting responsibility for life and choices. The Counseling Center offers individual and group counseling to members of the Bridgewater State College community. Short-term consultation and referral services are also available. During the course of the year the Counseling Center also offers workshops and discussion groups on topics of special interest. Services are provided free of charge and all services are confidential.

Food Services

A variety of food service areas are located throughout the campus for the convenience of both day and evening students. Resident students and off campus students may purchase 14- or 19-meal plan tickets which may be used in Tillinghast Hall, Shea/Durgin Hall and early in the evening at the Campus Center Rathskeller. In addition students may purchase a coupon book for use in the Campus Center Cafeteria and Sub Shop. Food may be purchased on a cash basis by students, staff and guests in any of the campus food service areas during normal operating hours. At the request of a physician efforts will be made to accommodate special dietary needs. For information on services and the hours of operation please contact the Food Services Office in Tillinghast Hall.

Health Services

By Massachusetts State Law all undergraduate students are required to have a record of a completed physical examination, with current immunization indicated, on file at the Office of Health Services prior to the start of classes. Medical record forms may be obtained from the Health Services Office.

The Health Services Office is the medical care center of the College. A broad range of specialty clinics, 24-hour medical services, and routine laboratory procedures are included among the benefits which students derive from the Health Services fee. Treatment may be received on a walk-in basis or by an appointment. A physician is on duty during scheduled hours and registered nurses are on duty around the clock. A gynecological clinic is held every other Tuesday and an orthopedic clinic is conducted once a month. Laboratory services providing the most common test procedures are available free of charge to all students.

Health/Accident and Personal Property Insurance

The Student Health/Accident Insurance Plan provides 24-hour coverage anywhere in the world for the 12-month period beginning September 1st. This plan is optional for all Bridgewater State College students. Persons carrying a minimum of nine academic credits are eligible to enroll. Additional coverage may be obtained for families and dependent children. Enrollment forms and information may be obtained from the College Health Services Office.

While the College does take measures to ensure the safety and protection of personal property, the College is not responsible for the compensation of loss or damage due to fire, theft, water damage, vandalism and so forth. It is advisable to check the extent of current home insurance or to seek coverage through a special policy.

International Student Center

Information for all prospective and current foreign students is available through the International Student Center in the Office of Student Services. Working closely with the College Admissions Office (see Admissions section of catalogue), the International Student Center is responsible for the on-going orientation of new international students and for providing information relative to immigration, housing, academic support services, employment and other matters of importance. English as a Second Language instruction is provided by the Department of Foreign Languages (see Department of Foreign Languages section of this catalogue for more information).

Students interested in overseas travel, study or employment are encouraged to make use of the growing resource library in the Center. Student exchange education programs have been established in cooperation with the Government of Canada; Shanxi Teachers University in Linfin, People's Republic of China; Republic of China (Taiwan); Oldenburg University in West Germany; and with Crewe-Alsager College of Higher Education in England.

Physically Challenged and Learning Disabled Students

For information please refer to S.C.O.P.E. which follows.

S.C.O.P.E. - Services for Commuter/Off Campus, Older than Average, and Physically Challenged Students to Enhance Education

A variety of services for commuters and students living off campus, older than average students, and physically challenged students have been centralized in the Student Services Office in Boyden Hall. Commuter and off campus students are encouraged to make use of carpool lists, off-campus housing guides and referral listings, and to become involved in the Off Campus/Commuter Student Association.

Through participation in OASIS (Older than Average Students in School) adult students develop important support networks and become familiar with services, policies and programs which will enhance their educational experience. The efforts of the SCOPE Office are reinforced and enhanced through the programs provided by such groups as the Academic Advising Center, Counseling Center, Career Planning and Placement Office, Financial Aid Office and Progress/Outreach Office where staff understand the special needs of returning students.

Providing for the accessibility of college programs and services, coordination of off-campus and on-campus service agencies, and advocacy for physically challenged persons are important goals of the SCOPE Office. Physically challenged and learning disabled students are urged to contact the SCOPE Office well in advance to arrange for readers, notetakers, tutors, interpreters, on-campus transportation and other auxiliary aids.

Transportation

The Bridgewater State College Transit System provides no-fare campus shuttle service from 7:00 a.m. to midnight as well as connecting service to Brockton, Monday through Friday, throughout the academic year. The campus shuttle runs approximately every 20 minutes and provides students with comfortable and reliable transportation around our 170-acre campus linking residence halls, academic buildings, and learning resources such as the Campus Center, Library and athletic fields.

The Bridgewater State College Transit System, inaugurated in January, 1984, with the cooperation and assistance of the Brockton Area Transit Authority (BAT), has been a welcome addition to the campus. During the spring of 1987 a van equipped with a wheelchair lift was added to the passenger vehicle fleet greatly enhancing campus accessibility for physically challenged students.

Students commuting between Middleboro, Bridgewater and Boston should contact Bay State Bus Line (Interstate Coach) for rate and schedule information. Commuting students are also urged to utilize the Car Pool List in the Student Services Office to link up with other students from the same area who would like to share rides.

Veterans Affairs

The Veterans Affairs Office provides information on current Veterans Administration Educational Assistance Programs, counseling, educational guidance, and assistance in obtaining work-study placements. The Office is also responsible for maintaining veterans' benefit records, and for submitting necessary documentation for initial enrollment and continuing eligibility benefits.

Students who may be eligible for educational benefits include: Vietnam and post-Vietnam era veterans, as well as those eligible under the New G.I. Bill, the Selective Reserve Educational Assistance Program, and Massachusetts National Guard Tuition Exemption Program; orphans, wives, widows, and widowers of veterans whose premature death or permanent total disabilities were service connected; and wives and children of service persons missing in action or prisoners of war for more than 90 days.

For information concerning Veterans Educational Assistance Programs or National Guard and Selective Reserve Programs, please contact the Veterans Affairs Office, c/o Student Services Office, Boyden Hall, Bridgewater State College, Bridgewater, MA 02324, or call or visit between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday, (telephone 617-697-1208).

Campus Life

Introduction

What are the special characteristics of campus life that truly distinguish Bridgewater State College? There are literally hundreds of interesting programs, projects, and events underway at the College throughout each year. This section presents a brief overview of some of these, which together impart a sense of a vibrant campus, an active student body and faculty, and Bridgewater's twin commitment to academic excellence and public service.

On the following pages we are pleased to share with you these selected samples of academic, cultural, and social activities and programs, for they reflect the continuing traditions of which we are most proud.

Special note: The following selected events, projects, and programs are presented in alphabetical order. These are intended to be a representative sampling of the many different activities and programs which are sponsored each year by the students, faculty, staff, and alumni of the College.

Alumni Day

Each year in May the Alumni Association, founded in 1842, celebrates Alumni Day and invites graduates back to share a day of reunions and other special events on campus. A highlight of Alumni Day ceremonies is the presentation of Alumni Leadership Awards to outstanding student leaders and scholarships to academically talented and deserving Bridgewater students.

Archaeological Excavations

The Department of Sociology and Anthropology conducts a vigorous archaeology program with field excavations of prehistoric and historic sites throughout New England. Excavations are currently in progress where important finds are discovered. Both undergraduate and graduate students participate in these field surveys.

Canadian Studies

Bridgewater State College has one of the strongest Canadian Studies programs in the Northeast. The program is interdisciplinary in nature - involving the academic departments of English, History, Music, Foreign Languages, Education, and Earth Sciences. The College has a reciprocal relationship with Canadian universities, and students from Bridgewater and from Laval University in Quebec have attended each other's school. Because of the College's expertise in Canadian Studies, the Government of Canada has recognized Bridgewater as an official depository of Canadian government documents.

Children's Physical Developmental Clinic

The Children's Physical Developmental Clinic is a unique program designed to serve children and youth with special needs. The Clinic is for children and youth, 18 months through 21 years, and is the only program of its kind in New England. Ninety children with special needs participate in two sessions of eight weeks each. The program seeks to improve the physical and motor development, and build self-esteem, of the children. Undergraduate and graduate students of different academic disciplines serve as clinicians, working with the children on a one-to-one basis.

Children's Theatre

Since its founding in 1969, the renowned Children's Theatre of Bridgewater State College has been seen and enjoyed by more than 120,000 area children, most of whom are seeing live theatre for the first time. That, in fact, is the idea behind the Children's Theatre — to introduce young people to the thrill and excitement of the stage. The plays are carefully selected (some are original compositions) to capture the interest and imagination of children. The Children's Theatre is one key aspect of an energetic theatre program at the College.

Commencement

Commencement is the close of the academic year, a colorful event mixing happiness with nostalgia, a celebration of a conclusion and the beginning of a new adventure for the graduates. At Commencement each year awards are announced, diplomas presented, and proud family members share in the happiness of the graduates.

In February, 1987, the first Winter Commencement was held at Bridgewater State College. This Commencement is for students who complete their course work during the previous summer or fall sessions.

Convocation

Convocation is the formal opening of the academic year and takes place in mid-September. Faculty and members of the senior class don academic robes for a colorful procession to the ceremonies, and it is customary to invite an outstanding graduate of the College to return to deliver the convocation address.

Firefighter Fitness Center

The Health, Physical Education, and Recreation Department is a leader in establishing quality fitness programs for firefighters in Massachusetts. Undergraduate and graduate students and faculty have been working for several years in this area, funded by state grants, and have established major outreach programs in communities such as Fall River and New Bedford. The College's "Human Performance Laboratory," where cardiovascular studies are conducted, is the center for this project.

Heritage Day

In early May of each year the College celebrates "Heritage Day," an opportunity to reflect on the school's long history and its contributions to our state and nation. The "Heritage Day Parade" — the largest college parade in New England, we're told — is a highlight of the week. Clubs, organizations, athletic teams, and residence halls each enter floats in the parade and compete for trophies. The parade also usually features a large contingent of antique cars, marching bands, and even an aerial exhibition by the Aviation Science fraternity, Phi Beta Sigma.

Homecoming

Homecoming Weekend is a major event each October, a time when large numbers of alumni return to the campus and join with current students to attend the annual Homecoming football game and many other activities which take place beginning on the Friday evening before the game. Besides the annual autumn football contest which highlights Homecoming, there are concerts, dinners, a parade, and other special events.

Honors Day

Honors Day is a significant event as each academic year draws to a close. Usually held on a Sunday in May, with the President of the College presiding, parents and family members are invited to come and participate in this special occasion, where students receive awards and scholarships for academic achievement and leadership in student life.

Management Science and Technology Council

The Management Science and Technology Council is comprised of leading business and public figures who meet regularly at the College to offer their expertise, advice, and experience on matters related to the College's major in Management Science. The Management Science and Technology Council includes presidents and senior officers of banks, corporations, and industries who meet with College students, faculty, and administrators to review the Management Science program.

Minority Awareness Day

To help acquaint minority students with educational opportunities at Bridgewater State College, the Office of Affirmative Action/Minority Affairs in cooperation with the Admissions Office hosts a "Minority Awareness Day" each year. Minority students from throughout Southeastern Massachusetts are invited to spend a day on campus meeting with students and faculty and participating in special information sessions to learn more about Bridgewater.

New Bedford Harbor P.C.B. Study

The Department of Earth Sciences and Geography has been conducting important studies of the sedimentation depth and pattern of disposal of P.C.B.'s in New Bedford Harbor. With a grant from the Pappas Foundation, Dr. Jacek Sulanowski is working collaboratively with the Woods Hole Oceanographic Institute to conduct this investigation.

Open House

Open House is held each year in the fall (November) for prospective students and their families. The Admissions Office plans the Open House and members of the faculty are on hand to meet with students and their families to discuss various academic programs. The Open House also features informational sessions on topics such as financial aid and admissions.

Orientation for New Students

Orientation for freshmen and transfer students is designed to help familiarize new students with the campus community. The orientation program includes meetings with students and faculty, recreational activities, academic advising sessions, tours, and other activities. Parents are also invited to participate in Orientation, as we consider them an important part of our community. The orientation program has received enthusiastic reviews from new students, who feel it makes them comfortable with the College before classes begin in the fall, and the adjustment to a new setting is, therefore, much easier.

Parents Weekend

Parents Weekend is held each year for the parents and family members of undergraduate students. A full weekend of activities is planned each year to give parents and family members an opportunity to meet with faculty and administrators, attend information seminars and panel discussions, enjoy exhibits and a play, and take tours of the academic, athletic, and cultural facilities of the campus.

Presidential Lecture Series

Each fall and spring the College hosts a lecture delivered by a member of the faculty chosen by a committee of faculty and administrators. The Presidential Lecture Series was inaugurated in the fall, 1986.



The Campus of Bridgewater State College

The Campus

Visitors to the Bridgewater campus frequently comment on its scenic beauty. 26 red brick buildings give the campus a distinctively colonial flavor, and spacious green lawns complemented by tree-lined paths are among the College's most attractive physical features.

The 26 academic and residential campus buildings include the following:

- **Boyden Hall** was constructed in 1926 and recently renovated and reconstructed. This handsome building houses administrative offices and classrooms. The building is named for Albert Gardner Boyden (Principal 1860-1906) and his son Arthur Clarke Boyden (Principal 1906-1931, President 1931-1932). A bronze tablet inside the building is inscribed with these words: *"They gave their hearts, their minds, and their lives to this school."*
- The **Clement C. Maxwell Library** is a modern four-story building with the capacity to house 425,000 books and accommodate 2,500 people. It is named for Dr. Clement C. Maxwell, President from 1952 to 1962, who believed that a library "is the heart of the college."

The Library now has more than 250,000 volumes and subscribes to 1,550 periodicals and newspapers. These are supplemented by microfilm and microfiche holdings, including *ERIC*, a nationwide pooling of information on education and allied social sciences, and *HRAF* (Human Relations Area Files), a collection of primary source materials on selected cultures and societies representing all major areas of the world.

Special collections include an extensive children's collection; the Theodore Roosevelt and Horatio Alger collections (both donated by Dr. Jordan Fiore, Professor of History); a 20,000 volume "Library of American Civilization" and a 6,000 volume "Library of English Literature," both on ultra-microfiche; a collection of books by Bridgewater authors; a Charles Dickens'

collection; and a collection of early American textbooks. The Library also has an extensive collection of Lincolniana and is a depository for Canadian government documents.

A curriculum center for teachers in training and in the field offers a large sampling of texts and allied materials. There is also an extensive collection of young adults' and children's books.

In addition to classrooms and seminar rooms, the Library has a small auditorium, a media center, and many individual study areas.

The College participates in a special interlibrary loan service including Bridgewater, Wheaton College, Southeastern Massachusetts University, Stonehill College, Taunton Public Library, Brockton Public Library, and the Veterans Administration Hospital Library.

An outstanding feature of the Maxwell Library is its constantly changing exhibits, reflecting many facets of contemporary and historical interest.

Periodic lectures, musical programs, and art exhibits are scheduled in the Library.

- The **Art Center** is the oldest existing campus structure, built in 1906 as a gymnasium. Through the years it has also served as a library and office building. Today, following extensive renovation, it houses art facilities, including studios for painting and sculpture and facilities for weaving, silk screening, ceramics, and metal work.
- The **John J. Kelly Gymnasium** was built in 1957. It houses athletic and recreational facilities, including a large and small gym, an olympic-size swimming pool, a weight room, faculty offices, and classrooms. The Human Performance Laboratory, where extensive cardiovascular research is carried on, is also located in this building.
- The **Marshall Conant Science Building** was opened in 1964, and is named for the school's second principal. The Science Building houses classrooms, laboratories, a lecture hall, and a host of modern equipment, including a Zeiss Electron Microscope and aviation flight simulators.



- The **Martha Burnell Campus School** is the College's newest complex. The one-story campus school wing has 13 classrooms plus a music room, art room, gymnasium, solar greenhouse, cafeteria, and library. Approximately 385 students in grades K-6 attend the Campus School. Adjoining this is the three-story **Burrill Avenue Academic Classroom Complex**, where College classrooms and faculty offices for several academic divisions are located.
- The **Adrian Rondileau Campus Center** is the "living room" of the campus, a multi-million dollar structure that features a three-story main building with offices for student organizations, a rathskeller, television studio, radio station, ballroom, music lounge, study areas, dining room, plus other facilities, and adjoining complexes of a 1,450-seat auditorium (with theatre production facilities that surpass many professional theatres) and a 900-seat cafeteria.

The Campus Center contributes to the educational, cultural, and social experiences of students by providing them with an opportunity to participate in such diverse activities as minicourses, concerts, drama workshops, movies, lectures, and other programs.

The Campus Center is named for Dr. Adrian Rondileau, President from 1962-1986.

- **Tillinghast Hall** was built in 1916 and was formerly a residence hall. Today the Admissions Office, Financial Aid Office, and faculty offices are located here, as well as a large dining hall for resident students.
- The **Edward C. Swenson Athletic Fields** are used by a variety of student athletic teams. The football field is surrounded by a running track and there are also fields for baseball, softball, and soccer.
- The **Catholic Center** was built in 1965 by the Archdiocese of Boston. The Protestant Campus Ministry has office space in the Maxwell Library and the Menorah Club has space reserved in the Campus Center.
- The **Greenhouse and Stearns/McNamara Memorial Garden** are located beside Pope Hall, a student residence hall. The greenhouse was built in 1911 and the memorial garden is a living laboratory of botanical studies.
- **Five residence halls and one student apartment complex** comprise the residential living accommodations at Bridgewater. The next section, "Housing," has complete information.
- The **Massachusetts Center for Teaching and Learning** is very close to the Bridgewater State College campus. The location for the new Massachusetts Center for Teaching and Learning was selected by Governor Michael Dukakis. The College will cooperate with the Center and its study of excellence in education for the entire Commonwealth of Massachusetts.

Housing

Residential Living

Approximately 1,500 students live on campus. The five residence halls, and one student apartment complex, comprise the on-campus housing facilities. Two new residence halls are under construction.

- **Shea Hall**, named for former Dean of Students, Dr. Ellen M. Shea, and **Durgin Hall**, named for Professor Emeritus Dr. George Durgin, each accommodate 362 students. The two residence halls share a common entrance and main lobby, and a dining hall.
- **Scott Hall** is named for former President Zenos Scott, and houses 162 students.
- **Woodward Hall**, named for Eliza Bond Woodward, class of 1857, who was the first female member of the school's faculty (1857-1887), has 85 double, triple, and quadruple rooms, and accommodates approximately 252 women.
- **Pope Hall**, named for former Dean of Women, S. Elizabeth Pope, houses 168 women.
- **Great Hill Student Apartments**, located near Shea/Durgin Hall, house 206 students. Each apartment has four single rooms and one double room, a common living area, and complete kitchen facilities.

At present, applications for residence hall placement exceed the openings generally available, and assignments are based on the total evaluation of the candidate, including the distance from one's permanent place of residence, academic standing, and acceptance of residence hall policy. Students who are not immediately granted residence are placed on a waiting list, and further placements are made from this list.

Although the College does not have housing facilities for married couples, marital status as such is not considered a factor in the assignment of a room to any individual student in a residence hall. On-campus housing is not available for graduate students, although a small number of rooms are reserved for Resident Assistant Supervisors.

Each applicant for a residence hall reservation must pay a room deposit of \$50.00 following notification of acceptance to a residence hall. This deposit will be deducted from the total second semester residence hall fee of students who attend and will be forfeited by those who do not enroll. Students who enroll for residence and then decide to commute will also forfeit their deposit.

Students who are assigned to residences are required to pay a \$50.00 "Residence Hall Security Deposit." Damages specifically attributed to an individual student or an identifiable group of students are billed at the time of the assessment of damages.

Off-Campus Housing

It should be noted that in many instances, the College is not able to house every student who wishes to live on campus. Therefore, many students elect to live off-campus.

Accommodations off-campus include apartments, houses, or rooms within private homes in close proximity to the College, thus allowing students to make full use of campus facilities such as dining halls (off-campus students may purchase the same meal plan as resident students), the Library, Gymnasium, and the Campus Center.

The Office of Student Services maintains a list of available off-campus housing, and assists students seeking such accommodations.

A large number of Bridgewater students who live in communities near the College commute from their homes to campus. Extensive parking facilities are available and new parking areas are being developed. The College Transit Service provides connecting bus transportation to the nearby city of Brockton, as well as to key areas in Bridgewater and West Bridgewater.

Among the services offered specifically for commuting students is information and assistance in forming carpools. Through a system of computerized cross-checking, students can match their schedules with other students from the same geographical areas who have similar class schedules.

Commuting students are actively involved in campus life to the same degree that resident students are, and assume leadership roles in many campus organizations.



The Program of Graduate and Continuing Education

The Program of Graduate and Continuing Education offers late afternoon, evening, and weekend courses during the fall and spring semesters plus morning and evening courses during two consecutive summer sessions.

Part-time and full-time courses are offered for undergraduate or graduate credit or for personal enrichment. Each semester approximately 300 courses are scheduled. In addition to courses offered at Bridgewater State College, there are a number of off-campus locations as well (consult the Program of Graduate and Continuing Education brochure).

Registration is open to all interested persons, either in advance by mail or by attending "walk-in registration" periods.

Students enrolled in the Program of Graduate and Continuing Education may study for a bachelor's degree, a master's degree, a Certificate of Advanced Graduate Study (CAGS) or a collaborative Doctor of Education Program with the University of Massachusetts at Amherst. In addition, certificate programs are available in a number of areas, including: Accounting/Finance Management, Computer Science, Marketing Management, Media Studies, Paralegal Studies, Substitute Teachers and Instructional School Aides at the Elementary or Early Childhood Levels, or Graduate Certificate Program of Special Studies in Administration and Management.

The staff of the Program of Graduate and Continuing Education includes counselors with experience in assisting students select courses and programs that best meet their goals and interests. For information about the Program of Graduate and Continuing Education, please call (617) 697-1259.

The Program of Graduate and Continuing Education brochure is published three times a year: fall, spring, and summer. In order to obtain a copy, call the Continuing Education Office at (617) 697-1259 or write to:

Continuing Education Office
Bridgewater State College
Bridgewater, Massachusetts 02324

Admissions

For information about admission to graduate programs, please consult the Graduate School section of this catalogue.

Bridgewater State College seeks to admit students who give evidence of intellectual capacity, motivation, character, and who have a record of scholastic achievement. An effort is made to attract candidates of diverse academic, economic, racial, religious, and geographic backgrounds. The admission requirements and procedures are designed to assist the College to select a freshman class from those applicants who can benefit from the educational opportunities at Bridgewater State College.

Bridgewater State College does not discriminate on the basis of race, sex, color, religion, age, or national or ethnic origin. In addition, no otherwise qualified handicapped applicant shall, solely by reason of handicap, be excluded from admission.

Freshman Admissions Requirements

Application Form

The application form, aside from collecting biographical data, requests information concerning the academic and extracurricular interests of the candidate. The essay and personal statement allow the College the opportunity to become acquainted with the applicant.

High School Record

The primary emphasis in evaluating a candidate for admission is placed on the overall performance of the applicant in secondary school. The strength of your curriculum, your grades, and class rank as well as the level of competition in your high school are taken into consideration.

Candidates for admission should complete a secondary school course of study, or equivalent preparation, which is compatible with the goals and objectives of the College. The secondary program should include the following college preparatory subjects:

English (a)	4 units
Mathematics (b)	3 units
Science (c)	2 units
History/Social Science (d)	2 units
Foreign Language (e)	2 units
Elective Units (f)	3 units
Related Courses (g)	4 units

- (a) These must be college preparatory courses in composition and literature which include the development of reading, writing and comprehension skills.
- (b) These should be college preparatory courses in such subjects as algebra, geometry, trigonometry, elementary functions and mathematical analysis. A fourth year of mathematics, usually calculus, is strongly recommended for students who plan to enter fields such as computer science, mathematics, pre-engineering or the sciences.

- (c) These college preparatory courses should include laboratory work.
- (d) This requirement should include one year of United States history and government.
- (e) Students are encouraged to elect a third year of foreign language study.
- (f) Students should choose from additional college preparatory courses in English, mathematics, computer science, foreign language, natural and physical science, visual and performing arts, and humanities.
- (g) Students are encouraged to elect courses that are consistent with their personal, educational and career goals. These courses may include, but are certainly not limited to, such offerings as computer science, business, communications, psychology and sociology.

Students graduating from vocational-technical high schools will be considered according to the provisions of the Board of Regents' Admissions Standards dated January 10, 1984.

The College is also careful to consider the characteristics of each candidate's school and community and sets no limit on the number of applicants admitted from an individual secondary school.

Bridgewater State College supports the efforts of secondary school officials and governing bodies to have their schools achieve regional accredited status to provide a reliable assurance of the quality of educational preparation of its applicants for admission.

Standardized Test Scores

Candidates for admission to the freshman class must take the Scholastic Aptitude Test (SAT) of the College Entrance Examination Board (the only exceptions are footnoted below**). In addition, candidates should submit the results of the College Board's Student Descriptive Questionnaire (SDQ).

***Chapter 344, Section 19 of the 1983 Acts and Resolves of the Commonwealth of Massachusetts states that: "No resident of the Commonwealth who has been diagnosed as being developmentally disabled, including but not limited to, having dyslexia or other specific language disabilities, by any evaluation procedure prescribed by chapter seventy-one B, or equivalent testing, shall be required to take any standardized college entrance aptitude test to gain admittance to any public institution of higher education in the Commonwealth. Admission shall be determined by all other relevant factors excluding standardized achievement testing."*

It is advised that students take the Scholastic Aptitude Test (SAT) no later than January of their senior year. Any candidates submitting scores taken during their junior year should have those scores and Student Descriptive Questionnaire (SDQ) reports forwarded during the academic year in which application is made to the College from the College Entrance Examination Board.

Candidates who graduated from high school three or more years prior to their planned entrance date are exempt from the SAT requirement.

Application for registration for the SAT, as well as score report requests, is made directly to the College Entrance Examination Board, Box 592, Princeton, New Jersey 08540. The College code number for designating score reports to be sent to Bridgewater State College is 3517.

Extracurricular Record

Since Bridgewater seeks students who will contribute to the College in a variety of ways, other factors are considered in the admissions decision. These include demonstrated leadership, participation in extracurricular activities, motivation, maturity, and special aptitudes and talents. Because of this, letters of recommendation, and any additional supporting information a candidate wishes to submit, are welcomed and encouraged.

Admissions interviews are strongly recommended, particularly as a means for the applicant to ask questions about Bridgewater and for us to learn more about the candidate.

Commencing with the freshman class entering in September, 1984, the Board of Regents of Higher Education has established an admissions eligibility index for students entering the Commonwealth's State Colleges and Universities directly from high school. This eligibility index is a sliding scale which relates scores on the Scholastic Aptitude Test with weighted high school class rank. The following groups are exempt from the Bridgewater State College Admissions Eligibility Index.

1. Candidates who have demonstrated to the Committee on Admissions non-quantitative factor(s) such as special aptitude, talent, initiative and creativity.
2. Students out of high school for three years or more. These students are best evaluated by certain non-quantitative criteria such as maturity and motivation.
3. Students whose special needs have been identified by means of assessments prescribed in Chapter 766. This group is exempt from submitting the results of the Scholastic Aptitude Test (SAT).



4. Educationally disadvantaged students. Typically these students include those who may be culturally different with a primary language other than English, minorities, economically disadvantaged, from rural districts with limited course offerings, or from large urban school districts which are experiencing a net out migration of students. For these students, non-quantitative factors are especially important in evaluations.
5. Students transferring to Bridgewater State College with an associate degree from a Massachusetts Community College.
6. Students transferring to Bridgewater State College with at least 12 semester hours of advanced standing and a grade point average of at least 2.0 on a four point scale.

Note: These eligibility requirements refer only to eligibility for admission to Bridgewater State College and do not guarantee admission.

Decision and Notification Dates

Early Decision

If Bridgewater State College is your first choice for college study, you may apply for Early Decision. For the applicant, Early Decision eliminates several months of waiting for an admissions decision. A student under the Early Decision Plan must agree to withdraw applications from all other colleges if admitted to Bridgewater. This program is only for freshman applicants for the fall semester.

Candidates for Early Decision must file their application and all supporting documents no later than November 1. You will receive a decision letter by December 15 and, if admitted, will have until January 15 to return your admission deposit.

Regular Decision

Freshman applicants for the Fall semester must submit their completed application by February 15. Notification for the Admissions Committee's decision will be mailed between April 1 and April 15.

A limited number of freshman candidates is accepted for the Spring semester each year. The application deadline is December 1 and decisions are mailed by January 5.

Transfer Admissions

Bridgewater State College, with its strong emphasis on Transfer Student Programs, welcomes qualified transfer students and encourages those students to apply.

Transfer applicants will be evaluated on the basis of their previous college work and must supply a transcript from each college attended. Transfer applicants with less than 12 semester hours of transferable credit must, in addition, submit to the College a high school transcript and the results of the SAT.

Transfer applications should be filed by April 1 for September admission or by December 1 for January admission. To be eligible for admission, a student should have a grade point average of at least 2.0 on a four-point scale. *Please note that this is merely a minimum grade point average and by no means guarantees admission.*

Whenever possible, degree credit will be granted for course work completed at other accredited institutions of higher education. A grade of C is necessary in a course for the transfer of credit. All candidates may be required to submit a catalogue from the previous college(s). Courses which do not fit the degree program may be counted as fulfilling the free elective requirements of the four-year curriculum. The transfer student will be required to fulfill the same degree requirements as any other student. However, a student who has completed the general education requirements of another Massachusetts State College prior to transferring, will not be obligated to meet additional or different general education requirements at Bridgewater State College. At least one-half of the required courses in the major field must be completed at this College. At least one-half of the courses required for a minor must also be completed at this College.

Honor courses, programs of independent study, Advanced Placement, College Level Examination Program (CLEP) and advanced standing credit earned at other institutions of higher education will be accepted at Bridgewater. Official documentation is required.

Most transfer students complete at least two academic years at the College, although if all requirements are met satisfactorily, the College will grant a baccalaureate degree with a minimum of one full year of academic work taken at the College provided that all other requirements for graduation have been met.

A student transferring from an accredited two-year institution is entitled to transfer for credit toward the bachelor's degree no more than the two years of credit which constitute the requirements of the Associate's Degree Program taken as a unit. Please note that no more than 69 semester hours may be transferred from any two-year institution.

The number of transfers accepted by Bridgewater will be determined by existing vacancies in the various degree programs and the number of applicants determined eligible under the above guidelines. Among qualified and eligible transfer applicants, priority in admissions will be given to transfer students in good standing from within Massachusetts public higher education.

To be eligible for transfer admission, a student must have a grade point average of at least 2.0 on a four-point scale. Please note that this is merely a minimum grade point average and by no means guarantees admission.

Commonwealth Transfer Compact

Throughout public higher education in Massachusetts, an associate's degree from any community college signatory to the Commonwealth Transfer Compact will be honored as a unit and construed as: (1) completion of at least 60 hours of work toward a baccalaureate degree, and (2) completion of at least 33 credit hours toward fulfillment of the general education requirements for the baccalaureate degree. Further, all associate's degree holders accepted for transfer under the Compact will be subject to no special requirements beyond those specified as major department and graduation requirements for students who originally enrolled in the receiving institution as freshmen.

To be eligible, the student must meet the following conditions:

1. Be accepted for transfer admission at Bridgewater State College.
2. Earn an associate's degree from one of the Massachusetts Community Colleges. The associate's degree must contain the equivalency of 60 hours of undergraduate college-level study and have the following distribution of credits:
 - a. 6 credits of English/communications
 - b. 9 credits of behavioral/social sciences
 - c. 9 credits of humanities/fine arts
 - d. 9 credits of mathematics/sciences
 - e. the remaining credits to be on a college level.

Some clarifications to the Compact are:

1. Student changing programs may expect that it will require more than four semesters to complete the sequence of a new major.
2. Course credit for transfers from programs not conforming to Compact specification will be evaluated by the receiving institution according to the applicability of those courses to the baccalaureate program in the major field of the student.

Readmission

Students who withdrew from Bridgewater State College in good standing within the year, and who wish to be reinstated, must file an application for re-enrollment with the Office of the Registrar. This process must be completed by December 1 for the spring semester and by June 1 for the fall semester. After these dates, any student requesting readmission must file an application with the Office of Admission. Because of enrollment constraints, students who submit application after the December 1 and June 1 deadlines cannot be guaranteed reinstatement for the subsequent semester.

All students separated from the College for academic reasons must file the official application form with the Office of Admissions by the dates listed above. In addition, students who were withdrawn for low scholarship must submit a letter outlining their activities since leaving the College and their reasons for wishing to return. It is recommended that students in this category present evidence of successful collegiate study at another institution of higher education.

Special Students

The day session admits, on a semester basis, a number of non-degree students as either full or part-time students. Students seeking admission in this category should contact the Office of Admissions for additional information.

Special Admissions Programs

PROGRESS

The Program for the Recruitment and Retention of Special Students (PROGRESS) was established to admit and provide support services to students from a minority group and/or disadvantaged background who possess both the motivation and potential necessary to achieve a college degree.

The Scholastic Aptitude Test (SAT) should be taken as it is used to assist in the placement and advising of the student. The high school performance of students applying through PROGRESS will be judged on the basis of identifiable achievement patterns over the high school experience rather than on class standing or rank.

Letters of recommendation from guidance counselors, teachers, and in some cases community leaders, are of great assistance in evaluating an applicant's ability to do college-level work.

Each student admitted through PROGRESS is assigned an academic advisor and will be encouraged to carry courses and course loads suitable to individual needs. Students must carry at least nine semester hours, but no more than 15 hours in the freshman year.

Tutorial services are available for all courses. The courses taken by PROGRESS students are the same as those taken by all students at Bridgewater. PROGRESS students must meet the same degree requirements for graduation as do all other students at the College.

Financial assistance is available through the Financial Aid Office. The amount of financial assistance each student will receive is dependent upon individual needs as demonstrated in the standard financial aid application form (Parent's Confidential Statement).

OUTREACH is a program designed for the recruitment, admission counseling, and tutoring of students who have traditionally had limited access to higher education. These students would include among others, working adults, homemakers, veterans, minorities, handicapped, and elderly. These prospective students are invited to enroll in either the day school or the Program of Continuing Education as either full or part-time students.

An important aspect of the OUTREACH program is that normal admission requirements may be altered in individual situations. Cognizant that applicants under the OUTREACH program may be presenting varied levels of preparedness, it is suggested that interested applicants contact the Office of Admissions to arrange for a personal interview.

International Admissions

Foreign students who wish to apply for admission to the College should address a letter of inquiry to the Director of Admissions indicating their educational background and intended area of study. Eligible candidates will be mailed a special foreign student admission application and asked to submit official transcripts and credentials. Students for whom English is a second language will be required to submit an official copy of their results from the "Test of English as a Foreign Language" (TOEFL). International students should begin the application procedure no less than nine months in advance of the expected date of admission.

Please see the *Services to Students* section of this catalogue for information on the International Student Center and other services available for international students.

Program for Registered Nurses

Provisions have been made for graduates of three-year diploma schools of nursing to complete programs leading to degrees in any of the academic majors being offered at the College.

While encouraging registered nurses to pursue degree work for personal enrichment, the College supports the guidelines of the National League of Nursing for the professional education of nurses. These guidelines caution nurses whose career goals include the opportunity to assume supervisory and/or teaching responsibilities in the field of nursing, that degree programs to be pursued should be taken only at those institutions which offer degrees in Nursing Education.

Through this special admissions program, students accepted to the College are granted 60 credit hours for their school or nursing work. Where applicable, these credits may be used to meet General Education, major, or elective requirements. As with all others transferring into the College, registered nurses are expected to meet the same degree requirements as outlined in the *Academic Policies* section of this catalogue.

New England Regional Student Program

Bridgewater State College participates in the New England Regional Student Program. The Program is administered by the New England Board of Higher Education and is designed to permit qualified New England residents to study with in-state tuition and admission privileges in certain programs at Bridgewater State College.

The program's purpose is to expand higher education opportunities for New England residents by making available on an equal basis those courses not commonly offered at every institution.

Information about the program can be obtained from the Bridgewater State College Admissions Office, from any guidance counselor, or from the New England Board of Higher Education, 45 Temple Place, Boston, Massachusetts 02111.

Health

All candidates, regardless of the intended area of study, are required to have a health examination before entrance. Information concerning such examinations is forwarded to prospective students after notification of acceptance. Every student must file the required health form with Health Services. In addition, the candidate, if a teacher education program is the intended area of study, must be in good physical and mental health, free from disease, infirmity, or other defect which would render the candidate unfit for public school teaching.

Advanced Standing

Advanced Standing with college credit and reduction of distributions of the College requirements is granted entering students who have demonstrated college-level proficiency through established procedures.

Advanced Placement Program

The College participates in the College Entrance Examination Board's Advanced Placement Program through which secondary schools deliberately prepare able, interested students for advanced work at college in the following disciplines: American history, art, biology, chemistry, English, European history, French, German, Latin, mathematics, music, physics, and Spanish. Scores of 3 or above are considered satisfactory by the College and credit is awarded accordingly.

Second Degree Option

Students who have previously earned a Bachelor's Degree may be eligible to pursue a second undergraduate degree at Bridgewater State College. Interested students are advised to contact the Office of Admissions for further information.

College-Level Examination Program (CLEP)

Bridgewater State College encourages able students to seek advanced standing through one or more of the CLEP examinations described below. Credit is awarded for scores at the 50th percentile or above.

CLEP credit may not be awarded if equivalent course work has been completed either prior to, or later than, the comparable CLEP examination. It is the student's responsibility to consult the current Bridgewater State College catalogue for area or course equivalent distribution of CLEP credits.

Students may arrange to take the CLEP Examination at any of the national test centers, including Bridgewater State College. Those students interest in taking the exams at Bridgewater should contact the Office of Admissions.

There are two types of CLEP (College-Level Examination Program) examinations: the General Examinations and the Subject Examinations. Both measure factual knowledge and understanding, as well as the ability to see relationships and apply basic principles to new problems. The examinations are not based on courses given at Bridgewater State College but on typical courses in a variety of colleges throughout the country.

GENERAL EXAMINATIONS

The College requires all students to complete some study in certain fields that are deemed important for everyone, regardless of special interests or occupational goals. Such required study is called "General Education." The CLEP General Examinations provide a way to show that you have acquired some general education; the equivalent of what is given in required freshman and sophomore courses at the College.

There are five General Examinations which can be applied toward the General Education Requirements at Bridgewater State as follows:

General Examinations	Credit Allowed	Area of Course Equivalent
English Composition*	3	English Composition I
Mathematics	6	Mathematics
Natural Sciences (Biology/Physical)	6	Natural Sciences
Humanities (Fine Arts/ Literature)	6	Humanities & Creative Arts
Social Sciences/ History	6	Social Sciences

*Bridgewater requires a supplementary essay to be taken at the College.

SUBJECT EXAMINATIONS

The subject examinations now offered are comparable to the final or end-of-course examinations in particular undergraduate courses. A person who has learned the subject through other means such as independent study can probably earn satisfactory scores on the corresponding CLEP examination. The following subject examinations are offered:

Composition and Literature

American Literature	6
Analysis and Interpretation of Literature	3
College Composition*	6
English Literature	6
Freshman English*	6

Foreign Languages

College French — Levels 1 & 2†	3 to 12
College German — Levels 1 & 2†	3 to 12
College Spanish — Levels 1 & 2†	3 to 12

Behavioral Sciences, Social Sciences, and History

American Government	3
American History I: Early Colonizations to 1877	3
American History II: 1865 to the Present	3
Educational Psychology	3
General Psychology	3
Human Growth and Development	3

*Bridgewater requires a supplementary essay to be taken at the College.

†Credit decisions are adjusted on the basis of total score in relation to prior years of study.

Introductory Macroeconomics	3
Introductory Microeconomics	3
Introductory Sociology	3
Western Civilization I: Ancient Near East to 1648	3
Western Civilization II: 1648 to the Present	3

Science and Mathematics

Calculus with Elementary Functions	6
College Algebra	3
Trigonometry	3
College Algebra- Trigonometry	3
General Biology	6
General Chemistry	6

Business

Computers and Data Processing	3
Introduction to Management	3
Introductory Accounting	3
Introductory Business Law	3
Introductory Marketing	3



Tuition and Fees *

1987-1988

Day Session

Application and Advance Payment Fees: A non-refundable undergraduate application and processing fee of \$25.00 is required of all in-state applicants and \$40.00 for out-of-state applicants. Upon acceptance, a non-refundable advance payment of \$50.00 must be made. This advance payment is credited against tuition when the student enters the College.

Semester Bill: Students are billed twice a year, prior to the start of each semester. Bills are sent to students at their permanent addresses. Payment **must** be made prior to the due date which will be specified on the bill.

- A. Students who have received an award letter from the Bridgewater State College Financial Aid Office may claim that amount of the award that is specifically designated for the semester. The amount must be indicated on the bill, which must be returned by the due date.
- B. Students wishing to claim credit for financial assistance from sources other than from the Bridgewater State College Financial Aid Office (outside scholarships, waivers, loans, etc.) must do so by indicating the amount of the assistance on the bill. Official documentation verifying the assistance must be enclosed with the bill, which must be returned by the due date.
- C. MASTERCARD or VISA may be used for any payment, either in full or in part.

Semester Tuition

Residents of Massachusetts (Undergraduate):

Full-time (12 or more credits) —	
per semester	\$468.00
Part-time — per credit hour	\$39.00

Non-Residents of Massachusetts (Undergraduate):

Full-time (12 or more credits) —	
per semester	\$1566.00
Part-time — per credit hour	\$130.50

Residents of Massachusetts (Graduate):

Full-time	\$528.00
Part-time (per credit hour)	\$44.00

Non-Residents of Massachusetts (Graduate):

Full-time	\$1620.00
Part-time (per credit hour)	\$135.00

Tuition and certain fees are not charged to any person 60 years of age or older.

Required Semester Fees

Campus Service Fee	\$170.00
Student Government	
Association Fee	\$24.00

Part-time students are charged one-half of the above fees.

Other Fees

Physical Education Facilities Fee	
required of all new students	\$12.00
Placement Fee required of all new students	\$10.00
Student I.D. Card Fee required of	
all new students	\$ 5.00
Residence Hall Security Deposit	\$50.00
Late Registration Fee (nonrefundable)	\$25.00
Commencement Fee	\$11.00
Day session underclassmen are billed at \$2.50 a year;	
seniors at \$3.50; transfer students assessed retro-	
actively; all others at time of graduation.	
Student Teaching Fee (in lieu of Educational	
Services Fee)	\$75.00
Student Health Insurance Plan (optional)	
(Family Plans available)	\$114.00
Transcript Charge (Day School - per copy)	\$ 1.00
MASSPIRG (Optional/Waivable) Fee	\$ 4.00

*All charges are subject to change.

Semester Room and Board

Room — per semester

Residence Halls	\$620.00
Resident Student Apartments	\$770.00

Board — per semester

19 meal plan	(Fall, 1987) \$570.00
.....	(Spring, 1988) \$585.00
14 meal plan	(Fall, 1987) \$545.00
.....	(Spring, 1988) \$560.00

Refund Policy

Upon official written notification of withdrawal by the student (to the Registrar's Office), the following refund policy is applicable: **THE DATE AND TIME THAT THE NOTICE IS RECEIVED WILL BE THE OFFICIAL DATE AND TIME OF WITHDRAWAL.**

Tuition and Board

Before the beginning of the second week of classes	80%
From the second week but before the third week of classes	60%
From the third week but before the fourth week of classes	40%
From the fourth week but before the fifth week of classes	20%
From the fifth week on, NO refund will be made.	

Room

Withdrawal Prior to Occupancy — Residents who wish to withdraw from a residence hall prior to occupancy may obtain a refund on room fees provided written notice of intention to withdraw is given to the Director of Housing no later than thirty (30) days before the commencement of either the fall or the spring semester and the College is able to fill the vacancy created by the resident's withdrawal.

Withdrawal During Term of Agreement — Residents who wish to withdraw from the residence hall during or at the end of a semester may receive a pro-rated refund on room fees provided they notify the Director of Housing in writing prior to their withdrawal and the College is able to fill the vacancy created by the resident's withdrawal. Such pro-rated refund shall be determined from the date of occupancy by the resident filling the vacancy. All rooms from which students have withdrawn campus-wide must be occupied before any individual refunds can be made.

Fees

Unless stated otherwise, all fees are nonrefundable and must be paid by all students who are in attendance for all or part of the semester.

It is the policy of Bridgewater State College that students or former students at any of the State Colleges who are listed by the financial office of said State College as having unpaid debts for tuition, room, board, medical or other College related charges where said debts have not been discharged by operation of law or where deferred payment of said debts has not been agreed to by said College will not (1) be issued any diploma to which said students might otherwise be entitled; (2) be permitted to register for any program at any State College for which said students might otherwise be eligible; and (3) be furnished a certified copy of any State College transcript (unless said transcript is needed to obtain any benefits related to service in the United States armed forces) although said students will be entitled, upon written request, to inspect and review uncertified copies of their transcripts.

Part-Time Students

Part-time students are billed on the basis of the number of credits for which they have registered. No tuition refunds are made to part-time students who reduce their course load after classes begin.

Program of Graduate and Continuing Education

All tuition and fees are payable in full at the time of registration.

Tuition

Residents of Massachusetts

Undergraduate Credit	\$60.00 per credit hour
Graduate Credit	\$75.00 per credit hour
Audit (non-credit)	\$50.00 per credit hour

Non-residents of Massachusetts

Undergraduate Credit	\$75.00 per credit hour
Graduate Credit	\$90.00 per credit hour
Audit (non-credit)	\$50.00 per credit hour

Fees

Registration Fee	\$40.00
Laboratory/Studio Fees	\$5.00-\$50.00
Charged in all laboratory science courses and in a number of studio and practicum courses	
Student I.D. Card Fee (new students)	\$ 5.00
Late Registration Fee	\$10.00
Change of Registration Fee (per course)	\$ 2.00
Commencement Fee	\$11.00
Transcript Charge (per copy)	\$ 2.00

Refund Policy

A student who is entitled to a refund must obtain a form for each course for which a refund is due and file it in the Continuing Education Office. THE DATE AND TIME THAT THE NOTICE IS RECEIVED WILL BE THE OFFICIAL DATE AND TIME OF WITHDRAWAL. Telephone and other unofficial notices will not be accepted as notification of withdrawal.

Tuition

Refunds will be based on the scheduled calendar:

Before the first class meeting	100%
After first meeting but before the second meeting	90%
After second meeting but before the third meeting	50%
After third meeting	no refund

Fees

Fees are nonrefundable unless the College is responsible for the class cancellation.



Financial Aid

All Bridgewater State College students are encouraged to apply for Financial Aid in order to meet the cost of education. With the exception of the Part Time Grant Program, students must be enrolled at least half-time in either an undergraduate or graduate degree program to receive financial assistance from the College. In considering students for financial assistance, the College places emphasis upon financial need. This need is the amount by which the total costs of college attendance, including reasonable costs of transportation, room and board, and other personal expenses, exceeds the expected family contribution. Each eligible student has equal access to the College's financial aid funds based upon the resources of both the parents and student. The aid from the College will be a supplement to the contribution of the family.

To provide a basis for fair and equitable evaluation in determining financial need, Bridgewater State College is a participating member of the College Scholarship Service (CSS). This organization utilizes a needs analysis system which calculates expected parental and student contributions from income and assets. All students applying for financial assistance from Bridgewater State College must file a Financial Aid Form (FAF) with the College Scholarship Service, Princeton, New Jersey 08541. The FAF may be obtained through any high school guidance office or through Bridgewater's Financial Aid Office. It takes approximately six weeks for CSS to process applications and forward its analysis to the College and other agencies. Upon application for admission to the College the Financial Aid Office will send the applicant a Bridgewater Financial Aid Application which must be completed and returned to the College. This form must be supported by a copy of the previous year's federal income tax return.

The deadline for submission of all completed forms to the Financial Aid Office at Bridgewater for those students entering the fall semester is April 15. Applications will be accepted after this date, but the availability of funds for eligible students is not guaranteed. Applications for students entering the spring semester are accepted on a rolling basis.

In order to be considered for renewal funds, candidates must reapply each year, following the same application procedures. Although the amount and type of aid offered may change due to the funds available to the College and to the dictates of program guidelines, applicants will continue to be eligible as long as financial need is demonstrated and the student maintains satisfactory academic progress.

Listed below are several federal and state sponsored programs, including grants, loans and jobs, in which the College participates and offers to eligible students.

Pell Grant Program

This grant is administered directly by the federal Pell Grant Agency to all needy undergraduate students who are attending Bridgewater on at least a half-time basis. The amount of the award is based upon the student's eligibility for financial aid, the cost of the College attendance, and the monies available nationally for this program. The Pell Grant Program responds directly to the applicant with response papers called the Student Aid Report (SAR). The SAR must then be forwarded to the Financial Aid Office for proper calculation.

Supplemental Educational Opportunity Grant Program (SEOG)

This program is designed to assist undergraduate students of exceptional financial need who, without this grant, would be unable to continue their education. An SEOG grant is awarded after all other forms of aid have been applied and there still remains an unmet need that presents an unusual and severe financial hardship to the student and family.

Perkins Loan Program (formerly National Direct Loan Program)

This program is designed for needy students who are enrolled at least half-time in an undergraduate or graduate academic program and who desire a loan to meet their educational expenses. Repayment of the loan at 5% interest begins 9 months after graduation and may be subject to various deferments and cancellation benefits depending on the vocation of the borrower after completion of his/her education.

Guaranteed Student Loan Program

This program enables students who are enrolled on at least a half-time basis to borrow directly from a bank, credit union, or savings and loan association. Generally, the annual loan limits for the freshman and sophomore years are \$2,625, and \$4,000 for the junior and senior years. Graduate students are limited to \$7,500 per year. The interest rate will range from 8% to 10%, and repayment begins 6 months after graduation. Students who wish to apply should file an FAF and a Bridgewater Financial Aid Application, in addition to the Guaranteed Student Loan Application which is available at participating local lending institutions. Eligibility is determined on the basis of the FAF analysis.

The College Work Study Program (CWSP)

This program provides jobs for students who have financial need and who can earn a part of their educational expenses. College Work Study is designed to assist undergraduate and graduate students who are enrolled in at least a part-time program of study. Students are assigned to various departments or agencies on and off the campus, and they are paid at an hourly rate in accordance with campus policies and federal regulations.

Student Employment Referral Service (SERS)

The Student Employment Referral Service is part of Bridgewater State College's Work Study Program. The program is coordinated and administered through Bridgewater State College's Financial Aid Office. The S.E.R.S. assists all students of the College by identifying job opportunities with business and industry. The Student Employment Referral Service serves as a clearinghouse for part-time and full-time employment, seeking out job opportunities, keeping current employment listings, and referring students to employers.

Tuition Waiver Program

Bridgewater State College assists undergraduate students of exceptional financial need with tuition reductions of varying amounts. A waiver may be granted after all other forms of aid have been applied and there remains unmet need that presents financial hardship to the student and family.

Massachusetts State Scholarship Program

The Board of Regents of the Commonwealth of Massachusetts makes the General Massachusetts State Scholarship available to full-time undergraduate degree candidates who are residents of the Commonwealth. Bridgewater State College requires all such students to apply for the State Scholarship. Application is made by filing the "Massachusetts" Financial Aid Form and students are issued award notifications directly from the Board of Regents.

Adult Learner Program (A.L.P.)

Funded through the Board of Regents, this program targets grant monies to female AFDC recipients who are full or part-time undergraduate residents of Massachusetts.

Massachusetts Educational Employment Program (MEEP)

Funded through the Board of Regents this program provides career related student employment opportunities for full time undergraduate residents of Massachusetts.

Massachusetts Part-Time Grant Program

Funded through the Board of Regents this program provides grants to students enrolled for a minimum of 3 semester credits to a maximum of 11 semester credits to assist with educational expenses. Applicants must be Massachusetts residents.

Christa McAuliffe Teacher Incentive Grant Program

Funded through the Board of Regents, this program provides grants of \$1,000 to students who agree to teach in a public educational system in the Commonwealth. Applicants must be Massachusetts residents, enrolled full time as juniors or seniors in a program of study leading to teacher certification.

Presidential Scholars Tuition Waiver

This program provides Tuition Waivers and special recognition to students who present exemplary academic credentials and whose background credentials demonstrate a unique and meritorious blending of outstanding academic performance with noteworthy achievements in a talent area. Special consideration is given to candidates enrolled in the College Honors Program.

Alternative Loan Programs

The College participates in both the PLUS Loan Program and the TERI Loan Program. Both programs are designed to assist families with students who may not qualify for sufficient financial assistance from other sources. Eligibility is not based on financial need; however, demonstration of adequate credit capacity is required. Repayment begins within 45 days of the disbursement of funds and the amount of the alternative loan along with all other grants, loans and work study employment cannot exceed the cost of attendance.

Alumni Scholarships

The Bridgewater Alumni Association provides scholarships and a limited number of grants-in-aid each year to needy and deserving Bridgewater undergraduate students. These individual scholarships are provided by 12 separate trust funds, each specifying the particular criteria to be utilized in selecting a recipient for that award. Application forms are available during March and April each year and may be secured in the Office of Financial Aid, Student Services, Alumni Office, and the Campus Center Director's Office.

Graduate Assistantships

A limited number of graduate assistantships are offered by the Graduate School, subject to the availability of funds, in areas associated with certain programs of the College. For details regarding graduate assistantships, see the Graduate School section of the catalogue.

Other Scholarships

In order to give recognition and prestige to student achievement on campus, many academic departments, clubs, and campus organizations sponsor scholarships and monetary awards to deserving Bridgewater students. A complete listing may be found in the Student Handbook, *New Dimensions*, and further information regarding application procedures may be obtained in the Office of Student Services.

Other Employment Opportunities

Opportunities which are not federally sponsored also exist for student employment on the Bridgewater campus. Applications for student employment in the College Bookstore, Library, dining areas, Campus Center, Campus Security, and the Department of Health, Physical Education and Recreation can be obtained through these individual departments. A number of Bridgewater students assist themselves financially in this manner.

Army Reserve Training Corps

Army ROTC offers a program which provides Bridgewater students the opportunity to graduate as officers and serve in the U.S. Army, the Army National Guard, or the U.S. Army Reserve. Army ROTC enhances a student's education by providing unique leadership and management training, along with practical experience.

Army ROTC three- and two-year full-tuition scholarships are available for Bridgewater students. Each scholarship pays for college tuition and required educational fees, and provides a specified allowance for textbooks, supplies, and equipment. Each scholarship also includes a subsistence allowance of up to \$1,000 for every year the scholarship is in effect.



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BRIDGEWATER STATE COLLEGE
BRIDGEWATER, MASSACHUSETTS 02324

Academic Programs

Bachelor of Arts/ Bachelor of Science

The Bachelor of Arts and Bachelor of Science degree programs allow students to select from a number of areas, and provide preparation for high school teaching (if High School Education is elected as a minor), graduate school, and fields of endeavor related to the major area of study. Majors are currently offered in:

Anthropology	Geography
Art	History
Aviation Science	Management Science
Biology	Mathematics
Chemistry	Philosophy
Professional Chemistry	Physical Education
Chemistry-Geology	Physics
Communication Arts & Sciences	Political Science
Computer Science	Psychology
Earth Sciences	Social Work
English	Sociology
French	Spanish

Except for those students in the Humanities, Creative Arts, or History, a student may decide, after having chosen a major, whether to earn a Bachelor of Arts or a Bachelor of Science degree by the selection of free electives. *A free elective is any course which is not used to meet the General Education Requirements or major requirements.*

Thus, the Bachelor of Science degree is awarded to those who choose the majority of their free electives in the Social and Behavioral Sciences or Natural Sciences and Mathematics, while the Bachelor of Arts degree is awarded to those who choose the majority of their free electives in the Humanities or Creative Arts.

Students are advised to consult with their department chairperson or major advisor early in their academic career, but no later than the end of the sophomore year, in order to be certain that course selection will allow graduation with the desired degree.

Students seeking admission to the Aviation Science major must pass at least a Class II FAA physical for the concentration in Flight Training or a Class III FAA physical for the Aviation Management concentration.

Bachelor of Science in Education

The Bachelor of Science in Education prepares students for teaching in the elementary schools, or for teaching in the area of Special Education.

Majors are currently offered in:

*Early Childhood Education
Elementary Education
Special Education*

Major

A student must meet all requirements of the major as specified under the departmental listings. A minimum of 24 credits and a maximum of 36 credits within the major may be required by a department. The 24 to 36 credits reflect all courses taken in the major department, including those which are listed under the distribution of General Education Requirements. At least one half of the required courses in the major field (excluding cognate requirements) must be successfully completed at this College. The student should select a major by the end of the sophomore year.

Double Major

In order to graduate with a double major, a student must meet all requirements of both majors sought, without waiver. The student's petition to double major must be made in writing and agreed to by both departments. Official notification of the approval of a double major will be made by the Office of the Registrar. Completion of the double major will be reflected on the finalized transcript.

Concentration

A concentration is a unified set of courses usually composed of core requirements and of requirements particular to the chosen major concentration. The total number of core and particular requirements must be at least 24 but not more than 36 credit hours, even if students are not required to complete a concentration for graduation. Cognate courses are not counted as part of the 36 hours. Only students selecting the major field of study may complete a concentration within that major. The major department may choose to have the completed concentration indicated on the student's transcript. Concentrations are currently available in:

Anthropology

Cultural Anthropology
Public Archaeology

Art

Commercial Art

Aviation Science

Flight Training
Aviation Management

Chemistry

Biochemistry

Communication Arts and Sciences

Speech Communication
Communication Disorders
Theatre Arts

Earth Sciences

Geology

Elementary Education

Middle School

English

Writing

History

Community History

Management Science

General Management
Environmental and Resource Management
Finance and Accounting
Marketing
Information Systems Management
Transportation

Physical Education

Athletic Training
Coaching
Exercise Science/Health Fitness
Health
Motor Development Therapy/
Adapted Physical Education
Programs for Children and Youth
Recreation

Physics

Computer Electronics

Political Science

Public Administration
International Affairs
Legal Studies

Psychology

Industrial-Personnel Psychology
Medical Psychology

Sociology

Criminology
Third World Studies

Minor

A minor is a unified set of courses chosen outside of the major field of study requiring not less than 18 nor more than 21 hours. The minor is recorded on the student's transcript. Minors may include courses from only one department or may be multidisciplinary. Students may use courses which satisfy G.E.R. or departmental requirements to fulfill multidisciplinary minor requirements unless otherwise prohibited. At least one half of the courses required for the minor must be successfully completed at this College. Specific requirements for a minor are found under the departmental descriptions.

Minors are currently offered in:

American Studies

Anthropology
Art
Art History
Aviation Science
Biochemistry
Biology
Canadian Studies
Chemistry
Coaching
Communication Disorders
Computer Science
Data Processing
Earth Sciences
Economics
English
French
Geophysics
Geography
German
Health
High School Education*
History
Instructional Media
Italian

Library Science

Linguistics
Management Science
Mathematics
Music
Philosophy
Physical Science
Physics
Political Science
Portuguese
Psychology
Radio and Television
Operation and Production
Recreation
Religious Studies
Russian
Russian & East European
Studies
Scientific Illustration
Sociology
Spanish
Special Education
Speech Communication
Theatre Arts
Urban Affairs

*Students who wish to become junior high school or high school teachers elect a minor in High School Education and a major from one of the major fields offered. This minor requires more than 21 hours in order to satisfy Massachusetts certification standards.

Directed Study

The college encourages students to pursue certain of their interests through directed study. Such an undertaking involves independent thinking, hard work, and creativity along with the guidance and help of a faculty member. The end result should be a paper or project accepted by the faculty member working with the student. Directed Study, which is limited to a maximum of six credits for graduation purposes and is primarily for upperclassmen, is available for the pursuit of such projects requiring independent work. Application forms for directed study are available from the student's department and should be submitted to the department chairperson prior to registration. Students may register through the Program of Graduate and Continuing Education for any directed study which is completed during the summer.

Internship

A number of departments within the College offer students the opportunity to enroll in an Internship, Practicum, or Field Experience for academic credit. Such experiences provide advanced students, usually in their third or fourth year, the chance to undertake a supervised practical experience within their field of study. Normally, field experience opportunities are available only during the regular academic year. Students



must register through the Program of Graduate and Continuing Education for any internship which is completed during those times when the day school is not in session.

Students interested in such a field experience have the option of (1) consulting with their faculty advisor for details on programs available through the department, or (2) developing their own program proposals, subject to the approval of the department. If the field experience desired is proposed by the student, it is the student's responsibility to locate a faculty member who will provide the necessary supervision.

Application and Selection

Application forms for a field experience are available from the student's department. The completed form must be filed with the chairperson of the department in which the field experience is to be undertaken, and *must be filed with the department no later than the end of the first quarter of the semester prior to the semester in which the field experience is to be undertaken.*

The department will screen all applications in order to select those students best suited for the positions available. The chairperson will forward the approved application forms to the Registrar to enroll those students selected.

Supervision and Grading

Supervision, evaluation and grading of a field experience is the responsibility of each department offering such a program. A student may be removed from the program if, in the judgement of the faculty supervisor, it is in the best interests of the student, agency, and/or College. Grades are based on written evaluations from both the faculty supervisor and the agency supervisor.

Credit

From three to fifteen credits in field experience may be earned and applied toward graduation requirements. The number of these credits which may apply toward the major will be determined by each department. A minimum of 45 clock hours in the field is required for each credit hour granted.

Compensation

Normally, compensation may not be received except for minimal amounts to cover such expenses as travel.

Honors Program

The Honors Program at Bridgewater State College provides promising and highly motivated undergraduates with opportunities to enhance their academic programs through intensive, independent, and creative work. Although honors courses are more demanding than regular courses, they offer challenging instructors, stimulating classmates, a richer and more interesting learning experience, and smaller classes in which students can establish a close relationship with their instructor and fellow students. Honors is not the easiest path through the curriculum, but it is a most rewarding one in both personal and academic terms.

For each honors course taken, students receive honors credit, and those who complete the program receive an Honors Degree -- a goal worth serious effort at a time of increasing competition for career and graduate opportunities. For the Bridgewater student, the honors experience may be approached in two ways: All-College Honors and Departmental Honors.

All-College Honors

The All-College Honors program begins with a series of Freshman and Sophomore Honors Colloquia which allow students the opportunity to work closely with individual members of the faculty. Honors credit is recorded on the student's transcript for each colloquium completed with a grade of A or B and, in order to remain in the program, students must complete at least three Honors Colloquia by the end of their sophomore year.

Each Honors Colloquium is attached to a regularly offered course which the student has selected as part of his or her normal program. The colloquia are designed to complement and extend the work of these courses. At the end of the sophomore year, students may elect to continue honors work either by remaining in the All-College Honors program or by undertaking Departmental Honors. Freshman and Sophomore Honors Colloquia are not required for entry into Departmental Honors programs, though they are required for entry into the junior and senior levels of All-College Honors.

Twenty-four credit hours are required for All-College Honors allocated as follows:

- 9 credit hours in non-major honors courses or a total of three honors credits in three one-credit Freshman or Sophomore Honors Colloquia (12 credit hours.);
- 6-12 credit hours of honors thesis work under the direction of the major department based on research or other creative work which can include work in the major, in a related major, or in an interdisciplinary area;
- remaining credit hours in honors courses in the major or in general studies.

Students who complete the program will have the phrase "All-College Honors" entered on their transcripts.

Departmental Honors

Departmental Honors programs, which emphasize independent study and research in the major, vary from department to department and do not begin until the junior year.

Departments offering Honors at present are: Biological Sciences; Chemical Sciences; Elementary and Early Childhood Education; English; History; Foreign Languages; Mathematics and Computer Science; Speech Communication, Theatre Arts, and Communication Disorders; and Health, Physical Education, and Recreation.

Students who have an overall quality point average of at least 3.0 by the middle of their sophomore year are eligible to become candidates for honors in those departments which

offer honors majors. A minimum of six hours of honors credit taken in the junior and senior years is required for honors as well as a thesis or research project. Students who complete a departmental honors program will have the phrase "with Honors in (the appropriate field)" entered on their transcripts.

Detailed information about the Honors Program, including specific program requirement, is published in the brochure entitled *Honors at Bridgewater*. Students may also consult Dr. Charles Nickerson, Honors Program Director.

Multidisciplinary Programs

The College offers a number of multidisciplinary programs, providing majors, minors, and pre-professional programs. See the section on *Undergraduate Multidisciplinary and Pre-Professional Programs*.

Cross Registration

CAPS

College Academic Program Sharing is designed to provide fulltime students attending a Massachusetts State College the opportunity to study at another Massachusetts State College in order to add a different or specialized dimension to their undergraduate studies. Students may take 3 to 30 semester hours of credit without going through formal registration procedures and without a formal transfer credit approval process.



General Education Requirements

The College requires that all students complete certain General Education Requirements in addition to courses in their major field of study and electives. These requirements are distributed throughout the various academic departments so that students will study a variety of disciplines during their college career.

Opportunity exists for students to design their own General Education Requirements rather than following the requirements outlined. For detailed information on this, contact the Director of Academic Advising.

The general Education Requirements as described below are in effect for all students who were matriculated at Bridgewater State College as of May 1987. In addition, students who enter in September 1987 as transfer students will follow this GER program. Entering freshmen as of September 1987 will be subject to the new GER program as it appears on the next page. However, please note that any student may elect to follow the new GER program in consultation with the academic advisor and the Dean of Undergraduate Studies.

Distribution of GER courses must include the number of credit hours indicated for groups I-VI (total of 40 credits). The remaining six credits may be selected from group VII.

I Humanities	9 crs.
English Composition I*	3 crs.
Literature*	3 crs.
Philosophy	3 crs.

*Proficiency in English Composition is required of all students. This requirement may be satisfied by passing EN 101 (English Composition I) with a grade of B- or better. Students who receive a grade of C+ or below in EN 101 are required to take EN 102 (English Composition II), which does not count toward General Education Requirements. The requirement may also be met by successfully completing the AP, CLEP, or departmental challenge examination. Check English course offerings for those courses which do not satisfy the literature requirement.

II Social Sciences	9 crs.
History**	6 crs.
Economics, Geography as a Social Science, History, Political Science	3 crs.

**Massachusetts state law requires all students to take a course in the Federal and State Constitutions. Students may fulfill this requirement by electing HI 221 (U.S. History to 1865). Those who do not elect HI 221 must take PO 273 (U.S. and Massachusetts Constitutions).

III Creative Arts	6 crs.
Art	3 crs.
Music	3 crs.
Speech Communication, Theatre	3 crs.
Arts and Communication Disorders	

IV Behavioral Sciences	6 crs.
Anthropology	3 crs.
Psychology	3 crs.
Sociology	3 crs.

V Natural Sciences & Mathematics	9 crs.
Sciences (including one semester of a lab science)	6 crs.
Mathematics	3 crs.

VI Library Introduction (ML 102)	1 cr.
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This requirement should be met during the first year of attendance.

VII GER Electives	6 crs.
Humanities	
Creative Arts (not more than 3 credits from each area)	
Social Sciences (including Geography as a Social Science)	
Behavioral Sciences	
Health	
Natural Sciences and Mathematics	

Guidelines on General Education Requirements

1. Only one course (3 credit hours) in a student's major field may be applied toward the GER's, except for English and History major programs, in which a maximum of 6 hours may be applied. However, cognate courses required by the major will apply, as appropriate, toward the GER's.
2. No co-curricular activities may be used to satisfy the GER's.
3. Beyond the General Education and the major requirements, all remaining courses are free electives. A free elective is any course not required to fulfill either the General Education or the departmental and cognate requirements of the major.

Information on new General Education Requirements

Students who are accepted for matriculation as freshman for September 1987 will follow the new General Education Program outlined below. The intention of the College community in developing the new GER program was to respond to the College's mission by providing a firm grounding in certain fundamental skills and methodologies for all recipients of the Bridgewater State College diploma.

The General Education Program is based on the premise that all educated persons, whatever their career interests, should possess the following essential academic skills:

- ability to write clearly and effectively;
- ability to listen and speak clearly and effectively;
- ability to think critically;
- ability to think quantitatively;
- ability to think creatively;
- ability to locate and process information.

The College furthermore has concluded that students should acquire an understanding of a significant body of factual knowledge and principles and experience in the critical and methodological processes of the following:

- description and documentation of Western Civilization which introduces students to a substantial, coherent, and broad perspective on historical knowledge within Western culture and to the nature of historical inquiry;
- literary analysis of several literary masterworks of Western Civilization;
- philosophical/theological analysis of significant human concerns;
- systematic study of modes of artistic expression;
- facts, principles and methods developed by the sciences for explaining the physical and biological world;
- facts, principles and methods developed by mathematics for studying mathematical reality;
- systematic study of a foreign language;
- facts, principles and methods for understanding non-Western civilization.

Specific courses which may be used to satisfy these requirements are listed below. Please note that Introduction to Library Resources must be completed within the first 30 credits at Bridgewater; the Speaking requirement must be satisfied within the first 60 credits; and all GER's should be completed within the first 90 credits taken at Bridgewater State College. In addition, all students must satisfy the state-mandated Constitution requirement and demonstrate proficiency in writing by successfully completing the College's writing proficiency examination.

- I Writing** 3 crs.
EN 101-102 Writing I, Writing II
- II Speaking** 3 crs.
CC 130 Human Communication Skills

III Philosophy/Religion 3 crs.

- PL 110 Reasoning and Value
- PL 120 Reasoning and Human Nature
- PL 130 Reasoning and Politics
- PL 150 Reasoning and Science
- PR 120 Philosophy, Religion and Moral Issues
- PR 130 Religion, Reason and Revelation
- PR 170 Theology and Reason

IV Locating and Processing Information 1 cr.
ML 102 Introduction to Library Resources

V History 6 crs.

No more than one course in U.S. History may satisfy this requirement.

- HI 111 Western Civilization to 1715
- HI 112 Western Civilization Since 1715
- HI 121 The Ancient World
- HI 124 The World Since 1715
- HI 221 United States and Constitutions to 1865
- HI 222 United States History Since 1865

VI Literature 3 crs.

- EN 211 Literary Classics of Western Civilization to 1600
- EN 212 Literary Classics of Western Civilization Since 1600
- EN 214 The Classical Tradition
- EN 221 Major British Writers to 1800
- EN 222 Major British Writers Since 1800
- EN 231 Major American Writers to 1865
- EN 251 Literary Themes
- EN 252 Literary Types

VII Artistic Modes of Expression 6 crs.

(select two courses in different disciplines, only one of which may be a studio course)

- AR 101 Introduction to Art
- AR 102 Introduction to Architecture
- AR 112 Introduction to Studio Art (studio)
- AR 125 Drawing I (studio)
- AR 130 Two-Dimensional Design (studio)
- AR 140 Three-Dimensional Design (studio)
- AR 201 Art Survey; Prehistoric, Ancient and Medieval
- AR 202 Art Survey: Renaissance, Baroque and Modern
- AR 203 American Art and Architecture
- AR 214 Art History Study Tour
- CT 110 Theatre Appreciation
- CT 115 Play Production
- CT 146 Dance Appreciation
- ME 152 Basic Photography (studio)
- MU 130 Voice Class I (studio)
- MU 140 Class Piano I (studio)
- MU 160 Music: A Listening Approach
- MU 161 American Music of the Twentieth Century
- MU 167 Music of Black Americans
- MU 170 Music Fundamentals
- MU 240 Class Piano II (studio)

VIII Physical and Biological Sciences 6 crs.

Select courses from two different departments, of which at least one must be a laboratory course. Laboratory courses are marked with an asterisk (*) in the list below.

BI 100 General Principles of Biology*
 BI 102 Introduction to Zoology*
 BI 110 Humans and Their Role in Nature (non-lab)
 BI 112 Biology and Human Thought (non-lab)
 BI 113 Fundamentals of Biology (non-lab)
 BI 114 Horticulture (non-lab)
 BI 115 The Microbial World and You (non-lab)
 BI 116 Drugs of Plant Origin (non-lab)
 BI 117 The Biological Environment (non-lab)
 BI 118 Evolution (non-lab)
 BI 272 Animal Behavior (non-lab)
 CH 102 Chemistry in Everyday Life (non-lab)
 CH 111 The Art of Chemical Inquiry*
 CH 131 General Chemistry I*
 CH 141 Chemical Principles I*
 ES 100 Physical Geology*
 ES 102 History of the Earth (non-lab)
 ES 194 Environmental Geology (non-lab)
 GE 100 Physical Geography*
 GE 120 The Physical World (non-lab)
 GE 196 Environmental Geography (non-lab)
 PH 100 Physics in the Natural World*
 PH 102 Modern Physics for the Humanist (non-lab)
 PH 180 Energy and its Social Uses (non-lab)
 PH 181 Elements of Physics I*
 PH 243 General Physics I*

IX Behavioral Sciences and Social Sciences . . . 9 crs.

Select two courses from two of the following areas:

Anthropology
 Psychology
 Sociology

and one from one of the following areas:

Economics
 Geography as a Social Science
 Political Science

Behavioral Sciences 6 crs.

AN 100 Introduction to Cultural Anthropology
 AN 101 Introduction to Physical Anthropology
 AN 103 Introduction to Archaeology
 AN 105 Culture Change
 AN 111 Myth and Culture
 PY 100 Introductory Psychology
 SO 102 Introduction to Sociology
 SO 212 Discrimination and Prejudice
 SO 219 Population and Society

Social Sciences 3 crs.

EC 101 Principles of Microeconomics
 EC 102 Principles of Macroeconomics
 GS 110 Human Geography
 GS 170 Regional Geography: The Developed World
 PO 100 Introduction to Politics
 PO 172 American Government: The Federal System
 PO 260 International Relations
 PO 271 Western Political Thought

X Systematic Study of a Foreign**Language 0/3/6 crs.**

Students are required to complete successfully a language course at the second-semester level or to test out of such a course.

LC 101-102 Elementary Chinese I-II
 LE 101-102 Elementary English as a Second Language I-II
 LF 101-102 Elementary French I-II
 LG 101-102 Elementary German I-II
 LT 101-102 Elementary Italian I-II
 LP 101-102 Elementary Portuguese I-II
 LR 101-102 Elementary Russian I-II
 LS 101-102 Elementary Spanish I-II

XI Mathematics 3 crs.

MA 101 Calculus I
 MA 103 Elements of Calculus I
 MA 105 Selected Topics in Mathematics

XII Facts, Principles and Methods for Understanding Non-Western Civilization . . . 3 crs.

This requirement may not be satisfied within the student's major.

AN 104 Global Human Issues
 AN 206 Native Cultures of North America
 AN 205 Far Eastern Art
 CT 222 Asian Theatre
 GS 160 Geography of Non-Western Cultures
 MU 162 Music in African Culture
 PR 252 Philosophies of India
 PR 253 Philosophies of China and Japan
 PY 200 Non-Western Theories of Personality
 SO 104 Global Human Issues
 SO 210 Society and Culture in Modern India
 SO 214 Islamic Societies of the Middle East
 SO 220 Sociology of the Third World
 SO 221 Religion and Society in Modern Asia
 RE 150 Arabia, Muhammed and Islam
 RE 170 Middle Eastern Islamic Literature
 RE 199 Comparative Religion: Eastern

Academic Policies

The regular academic year consists of two semesters of approximately sixteen weeks each. Curricula leading to baccalaureate degrees are so planned that a student pursuing a normal program will ordinarily be able to complete the requirements for graduation in four years or eight semesters, with the exception of those students majoring in Special Education.

Graduation Requirements

Degrees will be awarded to candidates who have fulfilled the following:

1. A MINIMUM of 120 credits, distributed according to the General Education Requirements and the requirements of a major;
2. completion of at least 30 credit hours at Bridgewater, including at least half of the requirements for the major program and for any minors (NOTE: No more than 69 credits earned at a two-year institution, and accepted in transfer by Bridgewater State College, may be applied to the baccalaureate degree);
3. a minimum cumulative quality point average of 2.0 at Bridgewater and any other academic requirements of the student's major department as approved by the College governance procedures;
4. clearance of all financial debts to the College.

The College conducts two Commencement convocations annually, in February and in May. Students who complete requirements for August or February graduation may arrange to participate in the ceremony held in February or the following May.

Conferral of a degree occurs when the Registrar finalizes the student's academic record and confirms that all requirements have been satisfied. Participation in the Commencement ceremony does not constitute conferral of the degree. Similarly, inclusion of a student's name in such publications as the Commencement program does not confirm eligibility for the degree.

Degree Application

All students who expect to receive their degree from Bridgewater State College are required to complete a formal degree application. These applications are available in the Office of the Registrar.

Degree Application Cards, signed by the Chairperson of the student's major department, must be returned to the Office of the Registrar by:

April 1 for February Graduation
November 1 for May Graduation
March 1 for August Graduation

Graduation With Honors

Academic excellence for the baccalaureate program is recognized by awarding degrees summa cum laude (cumulative QPA of 3.8 or higher), magna cum laude (cumulative QPA of 3.6 to 3.79), and cum laude (cumulative QPA of 3.3 to 3.59). The cumulative QPA determined for honors is based on all college-level work attempted at Bridgewater State College.

Grading System

The College uses the letter-grade system of marking to indicate the student's relative performance: A — Superior; B — Good; C — Satisfactory; D — Poor; E — Failure; W — Withdrawn. Grades in the A, B, C, and D ranges may include a designation of plus or minus. In computing averages, grades are assigned the following numerical values:

A/A+	4.00
A-	3.67
B+	3.33
B	3.00
B-	2.67
C+	2.33
C	2.00
C-	1.67
D+	1.33
D	1.00
D-	0.67
E	0.00

No numerical value is assigned to P (Pass) and F (Fail) grades.

An INCOMPLETE may be given by an instructor only when a student has missed the final examination for good reason or has not completed a major assignment which can be finished within a short time. *The student's request for an Incomplete must be made in writing and must have the instructor's written approval.* Incompletes must be made up no later than the fourth week of the regular academic semester following that in which the Incomplete was recorded. A grade of "E" will automatically be entered on the transcript of any student who fails to meet this requirement. Candidates for graduation should note, however, that all work must be completed prior to graduation, including resolution of any grades of Incomplete, since as of the date the degree is conferred, the record is finalized.

Grades for courses which are taken through the Program of Continuing Education while enrolled as a day school student, become a part of the student's day session record and thus are used in computing the Q.P.A.

No course for which a passing grade was received may be repeated for credit, nor will any grade received for a course which has been repeated replace the original passing grade.

Dean's List

The Dean's List is published at the termination of each semester to honor academic achievement. A 3.3 average for the semester is required with a minimum of 12 credits completed.

Academic Standing

In order to remain in good academic standing at Bridgewater your cumulative QPA must remain above the level indicated below:

Credit Hours Attempted*	Probation QPA	Separation below this QPA
0 — 15	1.00 — 1.49	1.00
16 — 30	1.50 — 1.64	1.50
31 — 45	1.65 — 1.74	1.65
46 — 60	1.75 — 1.84	1.75
61 — 89	1.85 — 1.99	1.85
90 and above	Must maintain 2.00 or better	

*"Credit Hours Attempted" includes all work taken at Bridgewater State College plus all college credits accepted in transfer. However, only quality points earned at Bridgewater State College will be utilized in determining the student's cumulative quality point average (QPA).

For transfer students during their first semester to remain in good standing at Bridgewater State College, the cumulative QPA must remain at 1.5 or above. After the first semester, transfer students follow the table above.

Students are placed on academic probation at the end of the semester if they fail to maintain the minimum QPA required for good standing.

Academic probation may involve (1) an adjustment in the student's academic load, (2) frequent interviews between the student and advisor for the analysis of difficulties and for checking the student's progress, (3) a stipulation that certain courses be taken to improve the student's academic performance, (4) restrictions on the student's extracurricular activities, and (5) other such precautions as are deemed advisable.

Students who have withdrawn from the College due to low scholarship may not take any courses in the College, either in the Day School or in the Program of Continuing Education (late afternoon, evening and Saturday morning sessions) for a least one academic semester, not including the summer session. After this time period, such students may apply for readmission through the Admissions Office. It is recommended that readmission applicants give evidence of at least one semester of academic work at some other institution of higher learning. However, course work taken elsewhere will not necessarily be accepted as transfer credit.

If readmitted, the student is placed on academic probation and must achieve a minimum QPA of 2.00 in order to continue.

Warning notices are sent at mid-semester to all students who fail to maintain a "C" average in any course.

Satisfactory Academic Progress

In addition to being in good academic standing (please see the preceding section), a student is defined as making satisfactory academic progress when the academic record shows successful completion of a specified number of credits per semester. Full-time students must earn a minimum of 10 semester credits each semester. Students should note that many financial assistance programs require participants to make satisfactory academic progress, in order to remain eligible.

Class Year Designation

Students are designated as being in a given class on the basis of the number of credits they have earned (that is, for courses completed successfully). The list below shows the minimum number of credits which must be recorded in order for a student to be designated as a member of a particular class. It is important to note that between the fall and spring semesters the minimum total increases.

Students should understand that these are *minimum* totals of credits accrued. The normal course load is 15 credits per semester, and it is this total which, maintained over eight semesters, yields the 120 credits required as a minimum for the baccalaureate degree.

Class	Computed During Fall Semester	Computed During Spring Semester
Senior	84	99
Junior	54	69
Sophomore	24	39
Freshman	--	9

Registration

Each semester a registration and counseling period is held to select the next semester's program and to discuss the overall standing and requirements of the student. Registration dates are provided in the college calendar; please consult the *Course Offerings* booklet published shortly before each registration period for specific instructions on how to register.

Course Loads

The normal course load is fifteen hours. However, undergraduates may carry a minimum of twelve hours or a maximum of eighteen hours without special permission. In order to carry less than twelve hours students must seek official approval from the Office of the Registrar. To carry more than eighteen hours, permission must be obtained from the Dean of Undergraduate Studies.

Students may not carry semester courses during the session in which they enroll in the Student Teaching Practicum.

Attendance Policy

Class attendance is an important part of the educational process in most courses. At the beginning of each course, the faculty member will explain to the students the policy on attendance, particularly what is considered excessive absence. Having this information, students are expected to use judgment and discretion about attending the class. First-semester freshmen and students on probation are allowed no unexcused absences.

Course Drops and Adds

During the first two weeks of a semester or the first five class days of a quarter, students may drop or add courses and no grade will be recorded. Drop-Add forms are available from your department chairperson and must be signed and returned to the Office of the Registrar during the Drop-Add period.

In cases where a student does not follow these procedures a grade of "E" will be entered on the record. This grade will be used to compute the QPA.



Withdrawal From Courses

If, for some serious reason, a student wishes to withdraw from courses after the Drop-Add period, written permission must be secured on forms provided by the Office of the Registrar. Only if such a form is filed in the Registrar's Office within the first five weeks of a semester course, and the second copy returned to the head of the department in which the student is majoring, may the grade of "W" be recorded. A student who withdraws between the fifth week and the tenth week of a semester course will be assigned a grade of WP or WF. In all other instances a grade of "E" shall be given. *Normally, no student will be permitted to withdraw from a semester-long course after the tenth week of classes, or after the fifth week of a quarter course.*

Course Audit

Students may register for courses on an audit basis under the guidelines noted below. The student will receive no academic credit for the courses nor will a grade be reflected in his/her cumulative grade point average.

1. A student may audit a course subject to the approval of his/her advisor or department chairperson and consent of the instructor.
2. Students are subject to conditions established by the department and/or instructor for the audited course.
3. Students registering for credit have course enrollment preference over auditing students. Therefore, a student must register for audit only during the drop/add period by submitting forms provided by the Registrar's Office. A student's status as an auditor in a course cannot be changed.
4. Students are expected to register for not more than one audit course per semester. Exceptions may be granted by petition to the Office of the Vice President of Academic Affairs.
5. No credit is awarded for audited courses. The student's transcript will reflect the course enrollment with the notation AU (no credit)

Withdrawal From College

Forms for official withdrawal from the College may be obtained from the Academic Advising Office located in the Maxwell Library. Professional staff from the Academic Advising Office will assist in completing the process, including the review of alternatives available to the student. Resident students must also have their withdrawal form signed by the Director of Housing, or a designee, in the Office of Student Services. Should the student leave the

College without giving official notification, failing grades will be recorded for all courses. After the tenth week of classes, grades will be recorded for all classes and the withdrawal will not be effective until the last day of the semester.

Students who withdraw from the College in good academic standing may re-enter within the following year by contacting the Registrar's Office. Students who withdraw for more than one year may re-enter later by applying for readmission through the Office of Admissions.

Students who withdraw due to low scholarship should refer to the section on *Academic Standing*.

Declaration of Major for Freshmen

All students who entered as freshmen must formally declare a major or choose the status of an undeclared major in the second semester of the freshman year. Prior to this declaration freshmen may change their area of interest by obtaining the necessary forms from the Office of Academic Advising. Although Early Childhood, Elementary Education, and Special Education majors may not be formally admitted into the Teacher Education Program until the second semester of the sophomore year, they must confirm their continued interest in these majors by the same process used by the other freshmen for declaration of their majors.

Change of Major for Upperclassmen

Students may change majors at any time by obtaining a "change of major card" from the Office of the Registrar, securing the signatures of the department chairpersons involved, and filing the completed card with the Registrar.

Declaration of Minor

In order to be enrolled in any minor offered by the College, a student must declare the intended minor on forms available from the Office of the Registrar.

Certification that the requirements of the minor have been met is made on the Degree Application Card by the department offering the minor. Approved minors are recorded on the transcript of the student upon graduation.

Credit by Examination

The College encourages qualified students to meet certain graduation requirements through "Credit by Examination." Currently the College will award credit for successful completion of the College Level Examination Program's (CLEP) general or subject area examinations. In addition, certain departments offer their own examinations for which credit can be awarded. Additional information can be obtained from the Office of the Registrar.

Transfer of Credit After Admission

In order for undergraduates in the day session to receive credit for courses taken at other accredited institutions, approval must be obtained in advance from the appropriate department chairperson.

Application forms are available in the Office of the Registrar. Applications for approval of a course from another institution should be accompanied by the appropriate catalogue from that institution. Transcripts of these approved courses must be submitted to the Registrar's Office within 6 weeks after the completion of the course. It is the student's responsibility to have official transcripts sent directly by the institution to the Office of the Registrar.

Grades of courses which are taken by matriculated undergraduate students through the Program of Continuing Education become a part of the student's record and thus are used in computing the QPA.

Plagiarism

Academic honesty is expected of all students. Plagiarism and cheating are not condoned and are subject to an academic penalty, which may be failure for the course in which the violation took place. A record of the violation is kept and repeated offenses may result in suspension or dismissal from the College.



Standards for Representing the College

In order to represent the College in intercollegiate competition, or as a member of the student government, a student must:

Be in good academic standing.

Be a full-time student, which is defined as carrying a minimum of 12 semester hours of credit.

Not have completed undergraduate degree requirements.

Have completed not more than eight full semesters in the day session.

Such eight full semesters in the case of a transfer student include the number of semester's work granted in transfer credit.

Intercollegiate Athletic Eligibility

The following four rules govern intercollegiate athletic eligibility for most students attending Bridgewater.

1. An athlete must be a full-time undergraduate student.
2. An athlete must maintain a minimum of twelve (12) credit hours or the equivalent each semester.
3. An athlete's Quality Point Average (QPA) must meet the requirements of good academic standing as defined in this Handbook (see page 50). *Effective January 1988 a QPA of 2.0 will be required for participation in intercollegiate athletics.*
4. An athlete must pass 24 credit hours (normal progress rule) or the equivalent in two consecutive semesters as a full-time student.

In addition there are very specific requirements which must be met in the case of transfer students from other four-year institutions, transfer students from two-year or junior colleges, and students who have been involved in multiple transfers. For information please confer with the Director of Athletics.

Dismissal Policies

A student is admitted to Bridgewater State College in the expectation that he or she will accept and abide by the high standards of conduct and scholarship established by the faculty, administration and student governing boards. The College reserves the right to require any student to withdraw who does not maintain acceptable academic standing. The College also reserves the right to dismiss with due process a student who does not meet the requirements of conduct and order, or whose behavior is inconsistent with the standards of the College. The Student Handbook, *New Dimensions*, outlines all campus policies and may be obtained in the Office of Student Services.

The Graduate School

The Graduate School at Bridgewater State College acts as a coordinating institution among the several divisions and departments engaged in graduate instruction. The Graduate Dean, the Graduate Faculty, and the Graduate Education Council are responsible for the maintenance of appropriate standards for graduate degrees and certificates.

The primary objective of Bridgewater's graduate programs is to increase to an advanced level the graduate student's understanding of and competence in a designated field of study. In the process, by extending the student's area of knowledge, research skills, and creative talents, the graduate programs of the College aim to increase the individual's ability to pursue and contribute to a satisfying career.

* * * * *

The Office of the Graduate School, which is located in the Conant Science Building, is open from 8:00 a.m. to 6:00 p.m., Monday through Friday, throughout the year except for legal holidays. Persons interested in working toward a master's degree, Certificate of Advanced Graduate Study (CAGS), or teacher certification program on either a full-time or a part-time basis should request appropriate application material.

Students are strongly urged to familiarize themselves with the general policies, procedures, and program requirements of the Graduate School outlined in the following pages prior to enrolling in courses carrying graduate credit. For additional information relative to a specific graduate program, students should contact the appropriate Departmental Program Coordinator by telephoning 697-1200. For general information in addition to that provided in the catalogue, students may make an appointment with a counselor by telephoning the Graduate School Office at 697-1300.

Post-Bachelor's Teacher Certification Programs

Programs leading to the certification of educational personnel are available to qualified persons who have earned a bachelor's degree and who are interested in one of the following certificates:

Classroom Teaching Certificates:

- Early Childhood Teacher (K-3)
- Elementary Teacher (1-6)
- Teacher of Behavioral Sciences (9-12)
- Teacher of Biology (9-12)
- Teacher of Chemistry (9-12)
- Teacher of Earth Sciences (9-12)
- Teacher of English (9-12)
- Teacher of Geography (9-12)
- Teacher of Health (K-9, 5-12)
- Teacher of History (9-12)
- Teacher of Mathematics (9-12)
- Teacher of Physical Education (K-9, 5-12)
- Teacher of Physics (9-12)
- Teacher of Social Studies (9-12)

Additional Certificates:

- Consulting Teacher of Reading (K-12)
- School Guidance Counselor (N-9, 5-12)
- School Principal (N-6, 5-9, 9-12)
- Superintendent/Assistant Superintendent (All Levels)
- Supervisor/Director (Various Levels)
- Teacher of Children with Moderate Special Needs (N-9)
- Unified Media Specialist (N-9, 5-12)

To be eligible, individuals must be officially admitted by the Graduate School to an appropriate non-degree certification program or Master of Education program. Persons who have already earned a master's degree may pursue certification in certain areas through Bridgewater's Certificate of Advanced Graduate Study (CAGS) in Education program. All of the programs listed have been approved by the Massachusetts Department of Education and include automatic certification in a number of states which have reciprocity agreements with Massachusetts.

Individuals who complete certification requirements as part of their graduate program may apply for certification prior to completing their master's degree or CAGS requirement.

For detailed information regarding the College's post bachelor's certification programs, please contact the Graduate School.

Graduate Programs

Master of Arts

The following programs leading to the degree of Master of Arts are presently offered:

- Biology
- Chemistry
- Communication Studies
- English
- History
- Humanities
- Psychology*

*Offered in conjunction with Southeastern Massachusetts University.

Master of Arts in Teaching

Programs leading to the degree of Master of Arts in Teaching are offered in the following fields:

- Behavioral Sciences
- Biology
- Chemical Sciences
- Creative Arts (Art, Music, Speech Communication and Theatre)
- Earth Sciences
- English
- Foreign Languages
- Geography
- History
- Humanities (English, Foreign Languages, Philosophy and Religious Studies)
- Mathematics
- Physical Sciences
- Physics
- Social Sciences (Economics, History, Political Science)
- Speech Communication and Theatre

Master of Education

Programs leading to the degree of Master of Education are offered in the following fields:

- Counseling
- Early Childhood Education
- Elementary Education
- Elementary School Mathematics
- Health Promotion
- Instructional Media
- Reading
- School Administration
- School Librarianship
- Special Education

Master of Science

Programs leading to the degree of Master of Science are offered in the following fields:

- Computer Science
- Physical Education

Certificate of Advanced Graduate Study (CAGS)

Programs leading to the CAGS are offered in the following fields:

Field of Concentration:
BEHAVIORAL SCIENCES

Areas of Study:
Anthropology
History/Social Studies
Psychology
Sociology

Field of Concentration
CREATIVE ARTS

Areas of Study:
Art
Music
Speech Communication and Theatre

Field of Concentration
NATURAL SCIENCES & MATHEMATICS

Areas of Study:
Biology
Chemistry
Earth Sciences
Geography
Mathematics
Physics

**Field of Concentration:
EDUCATION**

Areas of Study:

Computers in Education
Counseling
Early Childhood Education
Elementary Education
Elementary School Mathematics
Health Science
High School, Middle School & Adult Education
Instructional Media
Physical Education
School Administration
School Librarianship
Special Education

Doctor of Education

A collaborative Ed.D. program in School Leadership and Administration is offered by Bridgewater State College and the University of Massachusetts at Amherst.

Admissions

Application Procedures

The Graduate School admits students in November and May of each year. An application is not complete and, in general, applicants will not be considered for admission unless all of the appropriate documents indicated below have been received by the Graduate School Office on or before the appropriate application deadline: October 1 for November admissions and March 31 for May admissions. It is the responsibility of the student to make certain that all application documents are received in time.

Students seeking admission to a program leading to a master's degree must hold a bachelor's degree from a four-year institution of acceptable standing. (College seniors may be admitted on a conditional basis.) Students seeking admission to a CAGS program must hold an appropriate master's degree from an institution of acceptable standing. Ordinarily, the master's degree must be in an area within the CAGS field chosen by the student.

Applicants should indicate a specific degree or certificate program (and also the area of study) when they request application forms. It is difficult for the Graduate School to send appropriate application forms without this information. Any student who has filed material for admission to a given graduate program or area of study, and subsequently decides to apply for admission to another program or area of study, should consult the paragraph on "Changes in Program" in this section of the catalogue.

All students seeking admission to a Master of Arts program, Master of Science program, and certain Master of Arts in Teaching, Master of Education, and CAGS programs (see divisional/departamental requirements) should request a formal interview with the coordinator of the program prior to the deadline for submitting applications.

Applicants to the Graduate School should make certain that the material listed below is on file in the Graduate School Office. Application forms with fee payments should be sent to the following address: Graduate School, Department G, Bridgewater State College, Bridgewater, MA, 02324. All other correspondence and application material should be sent to the Graduate School Office, Bridgewater State College, Bridgewater, MA, 02324.

1. An appropriate application form and Graduate School Application Fee of \$25.00*.

Application forms may be obtained from the Graduate Office. Checks covering the nonrefundable \$25.00 Graduate School Application Fee should be made payable to *Bridgewater State College* and submitted to the Graduate Office accompanying the program application form.

*The application fee for the M.A. in Psychology program, offered in conjunction with Southeastern Massachusetts University, is \$10.00 for Massachusetts residents and \$40.00 for out-of-state residents.

2. Two official copies of all undergraduate and graduate transcripts.

All transcripts must be sent by college registrars directly to the Graduate Office and must bear the seal of the college. Applicants who have attended more than one undergraduate college and/or graduate school should arrange to have duplicate transcripts of all course work, including grade results, sent directly to the Graduate School. Graduates of Bridgewater State College should request the College Registrar to send transcripts to the Graduate Office. Applicants who have enrolled in Bridgewater's Program of Continuing Education should request the Continuing Education Office to send their transcripts to the Graduate Office.

Applicants who have successfully completed graduate courses, as well as those who hold a degree(s) in addition to the baccalaureate, must fulfill all application requirements as set forth in this catalogue. It should be noted that the successful completion of graduate courses prior to application shall not obligate the academic division/departament or the Graduate School to recommend an applicant for acceptance.

3. The results of the Graduate Record Examination (GRE) — master's degree applicants only.

All master's degree applicants must arrange to have scores from the GRE General Test (formerly called Aptitude Test) sent from the Educational Testing Service directly to the Graduate School Office. Photocopies of scores and scores submitted by the applicant are not acceptable. Application forms and information relative to the Graduate Record Examinations may be obtained from the Graduate Office. Since up to six weeks may elapse between the test date and the receipt of scores, applicants should take the test well in advance of the Graduate School's deadline for receipt of completed applications. In addition, applicants for a Master of Arts program must submit scores from the appropriate Subject Test (formerly called Advanced Test). All applicants from countries where English is not an official language, must also submit scores on Educational Testing Service's Test of English as a Foreign Language (TOEFL) examination. Ordinarily, only students with TOEFL scores of 550 or better will be considered for admission.

As indicated above, all master's degree applicants must submit the results of the Graduate Record Examination. In addition, students may submit Miller Analogies Test scores. Information relative to the Miller Analogies Test may be obtained by contacting the Continuing Education Office in the Maxwell Library.

4. Three letters of recommendation — master's degree applicants only.

Forms for recommendations are available at the Graduate Office. In general, only letters of recommendation submitted on these forms and sent by the reference directly to the Graduate School will be accepted. These letters provide an estimate of the applicant's ability to pursue successfully a master's degree program in the proposed field or concentration. For M.A.T. and M.Ed. applicants at least two letters must be from faculty who have taught the applicant at the collegiate level (undergraduate or graduate). The third letter may be from an appropriate employer or school administrator for whom the applicant has taught. Applicants who received the bachelor's degree more than five years prior to completing their application, may substitute other appropriate references if approved beforehand by the Graduate School. For M.A. and M.S. applicants at least two letters must be from persons who have taught the applicant in the appropriate area of concentration. The third M.A. letter may be from any faculty member who has taught the applicant at the collegiate level, while the third M.S. letter may be from any faculty member who has taught the applicant at the collegiate level or from an appropriate employer or school administrator for whom the applicant has taught. Applicants for either the M.A. or M.S. who received the bachelor's degree more than five years prior to completing their application, may substitute other appropriate references if approved beforehand by the Graduate School.

5. Additional divisional/departmental requirements.

There may also be special divisional or departmental requirements relative to the application. Such requirements, if any, are to be found under each division's or department's description of its graduate program(s).

Approximately one month prior to each application deadline for admission a notice will be sent to applicants listing the documents which have not been received. Applicants will be notified when their application folders are complete. All transcripts and other documents submitted become the property of the Graduate School and will not be returned. Copies of transcripts and other documents will not be issued from the Graduate School Office.



Action by the Division/Department

All completed applications are sent to the academic division/-department in which the applicant proposes to concentrate. After reviewing these applications, divisions and their departments make recommendations to the Graduate School.

Recommendations may include:

1. That the applicant be admitted to the Graduate School. Graduate students accepted with course deficiencies will be required to take prescribed undergraduate and/or graduate work without credit toward the degree or certificate.
2. That the applicant be admitted conditionally, pending the awarding of a baccalaureate. A college senior who is admitted to the program on a conditional basis should request his or her college to forward complete baccalaureate transcripts as soon as possible.
3. That the applicant not be admitted.

Action by the Graduate School

The Graduate Dean, after reviewing the recommendations of the academic division/department, notifies the applicant of the action taken. This notification will be mailed in late November and May to November and May applicants, respectively.

Graduate Advisors and Program Planning

Each graduate student who is accepted is assigned an advisor(s) representing the student's area of study. All students are required by the Graduate School to enroll in the following program planning course, in addition to completing minimum credit requirements in their program.

GS 501 Graduate Program Planning 1 graduate credit

The planning and development of a coherent program of graduate study appropriate to the student's academic and professional background and objectives. Graduate students who have been accepted into a master's degree or CAGS program should enroll under the direction of their advisor(s) during their first term of course work after acceptance by the Graduate School. For details, students should contact their advisor(s) by mid-December, if accepted in November, and by the end of May, if accepted in May.

All accepted students will receive from the Graduate School copies of the form *Graduate Program Proposal*. Students are required to have a completed copy of this form sent to the Graduate School Office when applying to graduate. It should be noted that conferences with advisors may be difficult or impossible to arrange during holidays and college vacations, and during the months of June, July, and August.

Change in Program

Any request to change from one graduate program to another must be made prior to the deadline for receiving completed applications as indicated in the College Calendar. Students wishing to change programs should request the Graduate School in writing to review their file to determine what additional material needs to be submitted. Students requesting a change in program should be aware that their original date of acceptance by the Graduate School will not change. Appropriate credits earned prior to a program change may be transferred to the new graduate program with the approval of the new advisor.



General Policies and Procedures

Students are responsible for all information given in the latest edition of the catalogue and also for any notices posted on the bulletin boards of the Graduate School, the Program of Continuing Education, the Library, and the appropriate academic department. Students who have questions regarding the graduate regulations presented in this catalogue should contact the Graduate School Office.

Change of Name and/or Address

Students should promptly notify the Office of the Graduate School of any change in name or address by using the appropriate form. Failure to do this may cause unfortunate complications and delays which inconvenience students. Forms are available at the Office of the Graduate School.

Deadlines

Students are reminded to consult the annual College Calendar for deadlines and dates relative to such matters as: admissions, Graduate Record Examinations, comprehensive examination requests, approval of transfer credit, and filing applications to graduate. This Calendar is printed in the front of the College catalogue.

Time Limits — Program and Course

All graduate program requirements must be completed within six years of the date of the student's acceptance. In addition, no graduate course offered for master's degree or CAGS credit may be more than six years old at the time program requirements are completed.

Course Registration

Graduate course work is offered through the Program of Continuing Education on either a full-time or part-time basis. Most students complete their graduate work in approximately three years. All students should realize that it is not possible to set an absolute deadline for completing a graduate program. This is due to such factors as the College's need to reserve the right to cancel any course for which there is insufficient enrollment.

All students who have been accepted in a graduate program and who plan to enroll in course work offered through Continuing Education should preregister by mail. Registration forms are attached to the Continuing Education brochure which is printed prior to the beginning of each term.

Full-time graduate study is defined, for academic purposes only, as being enrolled for nine or more graduate credits in a given term. Part-time graduate study is defined, for academic purposes only, as being enrolled for less than nine graduate credits in a given term. Ordinarily, students should not register for more than twelve undergraduate and/or graduate credits during the fall or spring term. Graduate students may not register for more than two courses (6-8 credits) during each summer session.

Program and Course Prerequisites

Program prerequisites may be required to ensure adequate preparation for graduate work in the area of study. In certain cases, these prerequisites may be fulfilled after the applicant's acceptance by the Graduate School. Certain advanced courses require that students have completed specific prerequisite courses.

Grading System

Graduate course achievement will be rated A, A-, B+, B, B-, C+, C, C-, F, W (Withdrawn), INC (Incomplete), or AU (Audit). GS 501 Graduate Program Planning will be graded on a P (Pass)/F (Fail) basis.

Withdrawal From Program

Students who decide to withdraw from a graduate program should notify the Graduate School of their intentions in writing as soon as possible. (Students should also consult course withdrawal procedures and refund policies indicated elsewhere in this catalogue.)

Academic Dismissal

Students who earn grades of B- or below in more than two graduate courses (i.e., any course in which the student enrolls for graduate credit after acceptance in a program) must withdraw from the program unless special permission to continue is recommended by the advisor, the major division/department, and the Graduate Education Council.

Graduate and Undergraduate Credit

Courses at Bridgewater with 500 level numbers carry graduate credit and are open only to graduate students. Certain courses numbered below 500 may be taken for either graduate or undergraduate credit. Graduate School guidelines for faculty teaching these latter courses indicate that advanced work should be required of graduate students. The guidelines recommend that more rigorous examinations and more sophisticated term papers should be expected to take into account the different quantitative and qualitative standards associated with graduate study.

The level of credit earned in a course must be that designated by the student at the time of registration. Requests for credit level changes must be received by the Office of Continuing Education prior to the beginning of the fourth meeting of a class. For day session courses, requests for credit level change must be received by the Graduate Office prior to the beginning of the fourth week of the semester. Ordinarily, a student who has not completed all requirements for the baccalaureate may not enroll in any course for graduate credit.

Transfer Credit

Transfer credit at the graduate level is defined at Bridgewater to include two distinct credit situations. First, transfer credit is defined as being any appropriate graduate credit taken at Bridgewater State College or at another accredited institution *prior to acceptance* to a Bridgewater graduate program. This includes appropriate graduate credit earned in courses in which the student is enrolled at the time of acceptance. Second, transfer credit is defined to include appropriate graduate credit taken at an accredited institution other than Bridgewater State College *after acceptance* to a Bridgewater graduate program. All courses to be used as transfer credit in a graduate program must have the approval of the advisor and be recorded on the student's *Graduate Program Proposal*. Details regarding the matter of transfer credit as it applies to Bridgewater's master's degree and CAGS programs are provided below.

Transfer Credit — Master's Degree Programs

A student who has enrolled in appropriate courses at Bridgewater or at another accredited institution prior to acceptance by the Graduate School may request that up to fifteen graduate credits (*including any credits earned in courses in which the student is enrolled at the time of acceptance*) be accepted in partial fulfillment of degree requirements. Approval is subject to the following conditions: 1) that not more than six of the fifteen credits being transferred are from an institution accredited at the graduate level other than Bridgewater State College; 2) that a grade of B or better has been earned in all courses enrolled in prior to the stu-

dent's acceptance by the Graduate School; and 3) that courses being transferred have not been used to fulfill the requirements of another degree or certificate. A form entitled *Petition for Acceptance of Transfer Credit* is sent to the student by the Graduate School Office at the time of acceptance. If courses enrolled in prior to acceptance are to be applied toward fulfillment of requirements for a master's degree, the student must submit the above form no later than the deadline indicated in the College Calendar. It should be noted that all transfer courses are subject to the regulations governing time limits — no graduate course offered for the degree may be more than six years old when degree requirements are completed.

After a student has been admitted to a master's degree program, a maximum of six graduate credits of grade B or better, taken at an institution accredited at the graduate level other than Bridgewater State College, may be transferred if approved by the advisor. It should be noted, however, that of the total number of credits offered for the degree, taken both prior to and after acceptance, not more than six can be transferred from other graduate schools. Two official transcripts of courses taken at another institution after acceptance must be sent directly to the Bridgewater State College Graduate School.

Transfer Credit — CAGS Programs

A student who has enrolled in appropriate courses at Bridgewater or at another accredited institution after completion of a master's degree and prior to acceptance in a CAGS program may request that up to six graduate credits be accepted in partial fulfillment of CAGS requirements. This includes credit earned in courses in which the student is enrolled in prior to acceptance are to be applied toward fulfillment of CAGS requirements, the student must submit the to review of their application, may request that up to six graduate credits in addition to ED 570 be accepted as transfer credit.). A grade of B or better is required of all courses being transferred. A form entitled *Petition for Acceptance of Transfer Credit* is sent to the student by the Graduate School Office at the time of acceptance. If courses enrolled in prior to acceptance are to be applied toward fulfillment of CAGS requirements, the student must submit the above form no later than the deadline indicated in the College Calendar. It should be noted that all transfer courses are subject to the regulations governing time limits — no graduate courses offered for the CAGS may be more than six years old when certificate requirements are completed.

After a student has been admitted to a CAGS program, a maximum of six graduate credits of grade B or better, taken at an institution accredited at the graduate level other than Bridgewater State College, may be transferred if approved by the advisor. It should be noted, however, that of the total number of credits offered for the CAGS, taken both prior to and after acceptance, not more than six can be transferred from other graduate schools. Two official transcripts of courses taken at another institution must be sent directly to the Bridgewater State College Graduate School.

Graduate Assistantships

The Graduate School offers a number of graduate assistantships in areas associated with the College's graduate programs. Only those who have been accepted into a Bridgewater State College graduate program are eligible to be awarded a graduate assistantship. Application forms may be obtained from the Graduate School Office. Completed assistantship applications should be returned to the Graduate School. Applicants who are awarded an assistantship will receive a letter of appointment from the Dean of the Graduate School.

Graduate assistants receive a stipend of \$4,000.00 for the academic year (September-June). Assistants will also receive tuition and fee remission for up to nine credits of course work during each of the fall and spring semesters. Graduate assistants are expected to work a minimum of 20 hours per week.

Independent Study

Each division's/department's graduate offerings include two courses in which a student who has been accepted in a graduate program and who meets the course prerequisites can pursue independent study under the direction of a faculty advisor.

—**502 Research** (credit to be arranged) — Original research undertaken by the graduate student in his or her field. The student's investigations ordinarily culminate in a thesis. The number of credits awarded for the research may vary, and the student may repeat the course until a maximum of 9 credits in an M.A. program and 6 credits in an M.A.T., M.Ed., M.S., or CAGS program is earned toward the minimum credit requirements for the degree or certificate.

Matriculated graduate students who wish to enroll in *Research* must complete and file with the Graduate School Office the Graduate School form *Approval of Thesis Topic and Outline*. A Graduate School letter of approval to enroll in —502 should be requested.

—**503 Directed Study** (credit to be arranged) — The course is designed for the graduate student who desires to study selected topics in his or her field. The number of credits awarded for *Directed Study* may vary, and the student may repeat the course until a maximum of 6 credits is earned.

Students who wish to enroll in *Directed Study* should obtain the form *Request for Directed Study* at the Graduate School Office. The completed form should be presented to the Continuing Education Office at registration.

Enrollment in a Directed Study ordinarily is limited to students who have been accepted to a graduate program at Bridgewater State College and, ordinarily, who have completed a minimum of 15 approved graduate credits.

Thesis

Graduate students submitting a thesis should obtain a copy of the Graduate School brochure entitled *The Master's Thesis*.

The student's thesis committee is comprised of at least three faculty members, including a thesis committee chairperson appointed by the graduate program coordinator. All thesis committee appointments should follow consultation with the student's advisor and the student.

It is the responsibility of the student to obtain from the Graduate School Office three copies of the form *Approval of Thesis Topic and Outline* and submit the completed copies to the advisor for approval by the members of the student's thesis committee. The student's thesis committee chairperson should retain the original copy of the completed form and should return the remaining two copies to the student. The student retains one copy for his or her records and submits the other to the Graduate School Office in order to be eligible to register for thesis credit under the course heading *Research*. (If the student, with the approval of the thesis committee, changes the thesis topic, revised copies of the above form must be filed).

Students should refer to the course entitled *Research* which appears in this catalogue under their major department and in this section under *Independent Study*, as well as consult with their advisor, relative to the matter of earning credit for research done in conjunction with a thesis. Students must be enrolled in *Research* during any period in which a faculty member is directing the thesis.

Three unbound copies of the approved thesis must be submitted to the Graduate School no later than the completion of all other degree requirements. Each copy must contain an abstract of the thesis. The Office of the Graduate School arranges for the binding of theses. A fee of \$12.00 per copy is charged. Checks should be made payable to Bridgewater State College and submitted to the Graduate School, Department G.

Comprehensive Examination

While students are expected to make satisfactory progress in their course work, the accumulation of credit hours is not regarded as the sole index of progress or as a guarantee that the master's degree or CAGS will be granted. Students must give evidence that they can integrate information and ideas from the various areas in which they have studied. The principal instrument for measuring this achievement is the Comprehensive Examination. This examination may be written and/or oral, as determined by the student's division/department. It is based upon the major area(s) of study, as well as related areas, and may include work done on a thesis.

A student who plans to take the Comprehensive Examination should file the Graduate School form entitled *Examination Request*, together with a nonrefundable Comprehensive Examination Fee of \$60.00 for master's degree candidates and \$75.00 for CAGS candidates. Checks should be made payable to *Bridgewater State College* and submitted to the Graduate School, Department G. The form should be completed and filed along with the fee no later than the deadline indicated in the College Calendar. Comprehensives are given during the months of November and April only. Ordinarily, the examination may not be taken prior to the last term of course work.

Students who fail the Comprehensive Examination shall be given one further opportunity to take it after they have made substantial progress in whatever additional work may be prescribed by the advisor. The second Comprehensive Examination may not be taken prior to the next official examination period. Students must file a new *Examination Request* form prior to the next application deadline indicated in the College Calendar. No additional fee is charged. Those who take the Comprehensive Examination will be notified of the results by mail.

Application to Graduate

Students who are nearing the completion of their graduate program requirements and who plan to receive a master's degree or CAGS in February, May, or August, should request the form *Application to Graduate* from the Graduate Office. This form should be completed by the student and filed, together with the candidate's *Graduate Program Proposal*, approved by the faculty advisor, in the Graduate School Office no later than the deadline indicated in the College Calendar. Failure to file before the deadline will ordinarily postpone degree conferral. A nonrefundable Commencement Fee of \$11.00 (plus an additional fee of \$21.00 for academic regalia for students attending commencement exercises) is required at the time of filing the *Application to Graduate*. Checks should be made payable to *Bridgewater State College* and submitted to the Graduate School, Department G.

No degree or certificate will be conferred and no graduate transcripts will be issued unless all tuition and fees have been paid in full.

Diplomas are awarded at the February and May Commencements and also at the end of August.

In the event that a student does not receive the degree at the anticipated time, the student should contact the Graduate School Office regarding procedures for reapplying to graduate.

Graduate Program Requirements

Master of Arts

General Requirements — A minimum of thirty approved graduate credits is required for the Master of Arts degree, in addition to a one-credit program planning course to be taken under the direction of an advisor upon acceptance in the program. All credits must have the advisor's endorsement. A thesis is optional in certain Master of Arts programs; students should consult appropriate departmental sections of the catalogue for specific program requirements. No more than nine credits associated with a thesis may be used to meet the minimum credit requirements for the degree. For additional details, students should consult the sections in this catalogue entitled *Thesis and Independent Study* and request the brochure entitled *The Master's Thesis* from the Graduate School Office. Ordinarily, at least one-half of the degree credits should be earned in courses limited to graduate students (500 level).

Preliminary Examination — In some departments, a Preliminary Examination is given during the semester following the successful completion of twelve credits (including transfer credits) of approved graduate work. This examination may be written and/or oral. Its purposes are: 1) to determine the degree of skill achieved in relating and integrating graduate work completed to date; 2) to ascertain the readiness of the student for additional graduate work; and 3) to enable the advisor to plan the remainder of the student's program. The Graduate School will apprise students of their performance on the Preliminary Examination. Unsatisfactory performance may require additional course work and a second examination. If a student fails to perform satisfactorily a second time, he or she will be dropped from the degree program.

Research Proficiency Examination — Students are expected to demonstrate competence with a research tool appropriate to their program, such as a reading knowledge of a foreign language, computer programming, or statistics. Students should consult with their advisor and major department relative to specific departmental requirements and procedures.

Comprehensive Examination — All students are required to pass a comprehensive examination. For details, see the paragraph in this section of the catalogue entitled *Comprehensive Examination*.

Master of Arts in Teaching

General Requirements — A minimum of thirty approved graduate credits is required for the M.A.T. degree, which is offered through the academic divisions and departments of the College, and the Department of High School, Middle School, and Adult Education, in addition to a one-credit program planning course to be taken under the direction of an advisor upon acceptance in the program. Students should consult the appropriate divisional and departmental sections of this catalogue. Degree credits must have the endorsement of the appropriate advisor. A thesis is optional in Master of Arts in Teaching programs. A maximum of six credits may be earned in conjunction with a thesis. The student's work should include results of original research and give evidence of acceptable scholarship. Each student who elects to do a thesis should enroll in the research course (—502) listed under the major department. Students should consult the sections of this catalogue entitled *Thesis and Independent Study* and request the brochure entitled *The Master's Thesis* from the Graduate School Office. Ordinarily, at least one-half of the degree credits should be earned in courses limited to graduate students (500 level).

Elective Courses — The degree of Master of Arts in Teaching is designed primarily to meet the varied needs of graduate students who are currently teaching at the secondary level. Emphasis is placed on providing appropriate breadth and depth in the student's field of interest as well as in the field of education. The balance between courses in education and the subject field is determined by the student's background.

At the time of acceptance students will be assigned an advisor from the academic area in which they are concentrating and an advisor from the Department of High School, Middle School, and Adult Education. All electives in the academic area of study should be approved by the student's advisor in that academic area prior to registration. All electives in education to be taken for degree credit should be approved by the student's education advisor prior to registration. Students not yet accepted to an M.A.T. program should consult with the appropriate academic and education coordinators for course selection and approval.

Each student, in consultation with advisors, elects courses which meet his or her professional needs. Ordinarily, at least 18 graduate credits should be elected from the academic area (and related areas) in which the student is concentrating. In addition, at least one course taken for graduate credit should be elected from each of the following areas of professional study:

RESEARCH METHODS AND FINDINGS
GC 500 Research and Evaluation

HUMANISTIC STUDIES
ED 310 Aims and Philosophy of Secondary Education
ED 480 Philosophy of Education
ED 505 Historical Foundations of Education
ED 580 Philosophical Foundations of Education
ED 583 Directed Study in the Philosophy of Education

BEHAVIORAL STUDIES
ED 520 Psychological Foundations of Education
ED 523 Directed Study in Educational Psychology
ED 590 Sociological Foundations of Education

TEACHING THEORY
ED 412 Strategies for Teaching Social Studies in the High School
ED 414 Strategies for Teaching English in the High School
ED 416 Strategies for Teaching Earth Sciences in the High School
ED 417 Strategies for Teaching Geography in the High School
ED 419 Strategies for Teaching Physical Science in the High School
ED 421 Strategies for Teaching Biology in the High School
ED 422 Strategies for Teaching Mathematics in the High School
ED 424 Strategies for Teaching Foreign Language in the High School
ED 425 Strategies for Teaching Art in the High School
ED 426 Strategies for Teaching Speech & Theatre in the High School
ED 440 Methods and Materials in Secondary Education
ED 443 Secondary School Curriculum
ED 578 Educational Software Development and Computer Applications I
SA 571 Introduction to Theory and Understanding of Group Interaction

Comprehensive Examination — All students are required to pass a comprehensive examination. For details, see the paragraph in this section of the catalogue entitled *Comprehensive Examination*.

Teaching Requirement — All students enrolled in a program leading to the degree of Master of Arts in Teaching are required to fulfill the degree prerequisite of teaching experience. This requirement may be met by one of the following procedures:

1. **CERTIFICATION.** The possession of an appropriate teacher certificate issued by the Department of Education of the Commonwealth of Massachusetts.
2. **TEACHING EXPERIENCE.** One full semester of successful classroom teaching experience at the appropriate level as a full-time employee in an accredited public or private school is ordinarily required. (In order to document this experience, students should submit the completed form entitled *Certificate of Teaching* to the Graduate School. This form is available at the Graduate Office.)

Master of Education

General Requirements - A minimum of thirty to thirty-six approved graduate credits, depending upon the program, is required for the Master of Education degree, in addition to a one-credit program planning course to be taken under the direction of an advisor upon acceptance in the program. Students should consult the appropriate departmental section of this catalogue. Degree credits must have the endorsement of the advisor. A thesis is optional in Master of Education programs. A maximum of six credits may be earned in conjunction with a thesis. The student's work should include the results of original research and give evidence of high scholarship. Each student who elects to do a thesis should enroll in the research course (—502) listed under his major department. Students should consult the sections of the catalogue entitled *Thesis and Independent Study* and request the brochure entitled *The Master's Thesis* from the Graduate School Office. Ordinarily, at least one-half of the degree credits should be earned in courses limited to graduate students (500 level).

Required and Elective Courses — Each program leading to the degree of Master of Education provides graduate students with a curriculum designed to meet their professional needs. Ordinarily, in addition to course work in the area of specialization and related fields, each student must elect for graduate credit at least one course from each of the following areas of professional study:

RESEARCH METHODS AND FINDINGS

Specific course requirements for this area of study are listed under the various departmental M.Ed. program descriptions.

HUMANISTIC STUDIES

ED 480 Philosophy of Education
ED 505 Historical Foundations of Education
ED 580 Philosophical Foundations of Education
ED 583 Directed Study in the Philosophy of Education

BEHAVIORAL STUDIES

ED 520 Psychological Foundations of Education
ED 523 Directed Study in Educational Psychology
ED 590 Sociological Foundations of Education

Additional M.Ed. course requirements are listed under the various departmental program descriptions in this catalogue. All courses to be offered in fulfillment of degree requirements must be approved by the student's advisor.

Comprehensive Examination — All students are required to pass a comprehensive examination. For details, see the paragraph in this section of the catalogue entitled *Comprehensive Examination*.

Certification Information — A number of Bridgewater's Master of Education programs have been approved by the Massachusetts Department of Education for the certification of educational personnel. Specific information regarding such programs is provided in this catalogue under the appropriate departmental program descriptions. For additional details regarding certification program procedures and requirements, students should contact the appropriate graduate program coordinator.

Master of Science

General Requirements — The degree of Master of Science is offered in the field of Physical Education. For information regarding this degree, consult the requirements outlined under the Department of Health, Physical Education, and Recreation.

Certificate of Advanced Graduate Study (CAGS)

General Requirements — Bridgewater's CAGS programs are designed to meet the well defined career needs of professionals who have earned an appropriate master's degree and who wish to attain greater competency in a combination of areas of study within one of the major CAGS fields — Behavioral Sciences, Creative Arts, Education, or Natural Sciences and Mathematics. Each student's CAGS program will be individually planned under the direction of an advisor and will focus on the academic background, present position, and professional needs of the student, constituting an integrated whole rather than a random assortment of courses. By broadening the individual's background, the CAGS aims to develop in the professional increased leadership ability for addressing significant educational and societal issues currently facing the region.

Details regarding the CAGS curriculum, including information about required and elective courses, may be found in the CAGS program description which appears in this catalogue under the Divisions of Behavioral Sciences, Humanities and Creative Arts, Natural Sciences and Mathematics, and Professional Education, respectively. A minimum of thirty approved graduate credits is required for the CAGS, in addition to a one-credit program planning course to be taken under the direction of an advisor upon acceptance in the program. Courses taken for the CAGS may not repeat work previously accomplished by the student in either his or her undergraduate or graduate degree work. Ordinarily, at least one-half of the CAGS credits must be earned in courses limited to graduate students (500 level).

Comprehensive Examination — All CAGS students are required to pass a comprehensive examination. For details, see the paragraph in this section of the catalogue entitled *Comprehensive Examination*.

Doctor of Education

A collaborative Ed.D. program in School Leadership and Administration is offered by Bridgewater State College and the University of Massachusetts at Amherst. The degree is awarded by the University of Massachusetts, but much of the course work leading to the degree is based at Bridgewater State College. Instruction and research for the degree are supervised by the University and Bridgewater State College.

Interested persons must apply first for the Certificate of Advanced Graduate Study in Education program through the Graduate School of Bridgewater State College and enroll in ED 570 CAGS Seminar.

All requirements for the collaborative Ed.D. degree program are similar to those for the Ed.D. degree at the University.

Information about the collaborative program is available from the Graduate School, 697-1300 or the program coordinator, Professor Ray Harper, 120 Burill Academic Building, 697-1367.



Program and Course Offerings

General Information

The following sections present the academic divisions of the College and their departments. Each department's undergraduate and graduate programs are outlined, together with a listing of its course offerings. The following sections present information about programs and course offerings. First the academic divisions are presented. The divisional section is followed by a presentation of undergraduate and graduate departments and programs, listed in alphabetical order. Individual course descriptions are included in this section under the appropriate headings.

The course offerings include all courses which are taught at the College — both through the day session and the Program of Graduate and Continuing Education. At present, the large majority of the 500 level courses are offered only through the Program of Graduate and Continuing Education. Students are urged to consult the day session's *Schedule of Courses* and the Graduate and Continuing Education brochure each semester to see when specific courses are offered.

Students should consult the undergraduate or graduate sections of this catalogue for information on academic regulations applicable to their degree.

Regulations concerning the refund policy for tuition and fees are found in the section of this catalogue entitled *Tuition and Fees*.

Course Numbering System

- 100 - 299 Introductory courses or courses normally taken during the freshman and sophomore years
- 300 - 399 Courses normally taken in the junior or senior years — open to graduate students unless otherwise noted.
- 400 - 499 Courses normally taken by seniors — open to graduate students unless otherwise noted.
- 500 - 599 Open only to graduate students.

Courses which may not be taken by graduate students for graduate credit are indicated as part of each graduate program description.

Prerequisites

Students should make certain that they have the necessary prerequisites for each course. Failure to do so may result in being inadequately prepared to take the course, and may result in the loss of any credit earned in the course. Prerequisites are indicated in each course description.

Semester Notations

In each course description, the list of prerequisites is followed by a semester designation indicating when the course can normally be expected to be offered. This information is provided to assist students and their advisors in planning their programs. Please note, however, that all course listings are published subject to change, and that the College reserves the right to cancel courses or sections with inadequate enrollment.

Meeting Times

Unless specified otherwise, day session courses meet for three 50-minute periods or two 75-minute periods per week for one semester, and count for three credits. Departures from this rule, such as laboratory and studio periods and quarter courses, are indicated in the course descriptions and in the schedule of courses.

Courses offered through the Program of Graduate and Continuing Education normally meet once a week for a three-hour period. Exceptions are noted in the Graduate and Continuing Education brochure.



Division of Behavioral Sciences

Psychology Social Work Sociology and Anthropology

Undergraduate Programs

Undergraduate programs of study within the Division of Behavioral Sciences are provided by the Departments of Psychology, Social Work, and Sociology and Anthropology.

Students within the Division receive intensive instruction in the scientific study of cultures, personality, individual and group behavior, social work procedures, and research techniques useful in social work, anthropological, psychological, and sociological study.

Graduates of the Division of Behavioral Sciences find employment in social work and community service agencies, psychological clinics and related settings in urban areas. Some pursue graduate and professional training. Others engage in secondary school teaching.

Graduate Programs

Master of Arts in Teaching

The Division offers a program leading to the degree of Master of Arts in Teaching with a concentration in the behavioral sciences, which is designed primarily to meet the varied needs of graduate students who are currently teaching at the secondary level. All accepted students must enroll under the direction of their advisor in GS 501 Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue. Degree requirements include a minimum of 12 appropriate graduate credits in designated areas of professional study (consult M.A.T. degree requirements in the Graduate School section of this catalogue), and a minimum of 18 appropriate graduate credits in the behavioral sciences (approved by the program advisor on the basis of the background, interests, and needs of the student).

Applicants to the degree program must be interviewed prior to being considered for admission. Students should contact the Chairperson of the Division's Graduate Committee.

As part of their application to the program, students must show evidence in their background of a minimum of 18 credits in the behavioral sciences (anthropology, psychology, and sociology), with at least 3 credits earned in each of the three fields. In addition, students must have completed a minimum of 3 credits in statistics or computer science.

Students admitted to the program will be expected to develop a concentration or "specialty" within the behavioral sciences. The concentration or "specialty" will be based upon the interests of each student. In meeting program requirements, the following courses are strongly recommended:

- AN 323 Anthropological Theory
- SO 400 Seminar: Social Theory
- SO 402 Seminar: Research Methods in Sociology

One or more of the following courses in psychology:

- PY 310 Social Psychology
- PY 319 History of Psychology
- PY 342 Physiological Psychology
- PY 360 Psychology of Personality
- PY 370 Abnormal Psychology
- PY 415 Psychological Theory
- PY 500 Pro-Seminar in Contemporary Issues in Psychology I
- PY 506 Research Methods and Design I

Certificate of Advanced Graduate Study (CAGS)

The Division offers a program leading to a Certificate of Advanced Graduate Study (CAGS) in Behavioral Sciences. This program is designed to meet the varied career needs of professionals who have earned an appropriate master's degree and who wish to attain greater competence in a combination of areas of study in the field of behavioral science. Areas of study offered include psychology, sociology, and anthropology. Ordinarily, the applicant's master's degree must be in an area within the field of behavioral science. Applicants must demonstrate that they possess an academic and experiential background relevant to their field, and must indicate that their needs and goals are in accord with the objectives of the CAGS. All applicants must be interviewed prior to being considered for admission. Students should contact the Chairperson of the Division's Graduate Committee.

All accepted students must enroll under the direction of their advisor in GS 501 Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue. Credit requirements will be fulfilled by courses, selected under the direction of the advisor, which clearly meet the student's academic and career needs. Appropriate courses offered outside of the Division will be permitted on a limited basis.

Additional information regarding this program, including application procedures and general academic requirements, may be found in the Graduate School section of this catalogue.

CAGS Concentration for History/Social Studies Teachers

A CAGS in Behavioral Sciences concentration for history/social studies teachers has been developed jointly by the History Department and the Division of Behavioral Sciences. Designed primarily for students with a history background at the master's degree level, this concentration provides for additional specialization in history, as well as appropriate interdisciplinary study in the behavioral sciences. Additional details may be found in the History Department section of this catalogue.

Divisional Course Offerings

BH 201 Quantitative Methods in the Behavioral Sciences (3 crs.)

The fundamentals of behavioral science research, with application of the scientific method to the particular problems and issues faced by psychologists, anthropologists, and sociologists. Includes hypothesis formulation, research design, data collection analysis and interpretation, and research report. (*Prerequisite: 3 credits required - MA 105 or above -- acceptable by departments within the Division in lieu of MA 110*)

BH 560 Curricular Materials in the Behavioral Sciences (3 crs.)

New course books and other materials planned by national advisory groups of anthropologists, psychologists, and sociologists and produced through long-term projects funded by the National Science Foundation will be presented, with emphasis on clear, objective behavioral scientific materials recommended for immediate use in secondary schools.

BH 599 CAGS Seminar in Behavioral Sciences (3 crs.)

Designed to provide a broad conceptualization of the behavioral sciences, focusing on critical issues facing professionals in the field today.

Division of Humanities and Creative Arts

Art
English
Foreign Languages
Music
Philosophy and Religious Studies
Speech Communication, Theatre Arts,
and Communication Disorders

Undergraduate Programs

The Division of Humanities and Creative Arts, consisting of the Departments of Art, English, Foreign Languages, Music, Philosophy and Religious Studies, and Speech Communication, Theatre Arts, and Communication Disorders, provides instruction and training in several areas of creative and humanistic endeavors. Through its faculties the Division offers undergraduate majors in Art, Communication Arts and Sciences, English, French, Philosophy, and Spanish. Minors in the areas listed above as well as German, Italian, Music, Portuguese, Russian, and Religious Studies are offered to the undergraduate. Each of the departments in the Division offers a balanced program for the student with ample opportunity to study theory in the classroom and to put that knowledge into practice through internships and other practical experiences.

Graduate Programs

In addition to the Bachelor of Arts degree, the Division of Humanities and Creative Arts offers programs leading to the degree of Master of Arts (in the areas of English, Humanities, and Speech Communication) and the degree of Master of Arts in Teaching (in the areas of Creative Arts, Speech Communication and Theatre Arts, English, Foreign Languages, and Humanities), as well as a Certificate of Advanced Graduate Study (CAGS) in Creative Arts. Further information about these programs may be found below, in the case of interdisciplinary programs, and in the departmental presentations which follow, as well as in the Graduate School section of this catalogue.

Master of Arts in Humanities

The Division offers an interdisciplinary program leading to the degree of Master of Arts in Humanities, which is designed to prepare qualified students for research, further graduate study, and teaching. An undergraduate major in one of the disciplines within the scope of the humanities is normally required for admission to this program. An interview is required; students should contact the Graduate School Office for further information. All accepted students must enroll under the direction of their advisor in GS 501 Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue.

Master of Arts in Teaching (Concentrations in Humanities and Creative Arts)

The Division offers interdisciplinary programs leading to the degree of Master of Arts in Teaching with concentrations in Humanities and Creative Arts. These programs are designed primarily to meet the varied needs of graduate students who are currently teaching at the secondary level. Applicants to the Creative Arts concentration should specify their primary area of interest.

All accepted students must enroll under the direction of their advisor in GS 501 Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue. Degree requirements include a minimum of 12 appropriate graduate credits in designated areas of professional study (consult M.A.T. degree requirements in the Graduate School section of this catalogue), and a minimum of 18 appropriate graduate credits in the area of concentration (approved by the program advisor on the basis of the background, interests, and needs of the student).

Certificate of Advanced Graduate Study (CAGS) in Creative Arts

The Division offers a program leading to a Certificate of Advanced Graduate Study (CAGS) in Creative Arts. This program is designed to meet the varied career needs of professionals who have earned an appropriate master's degree and who wish to attain greater competence in a combination of areas of study in the field of creative arts. Areas of study offered include art, music, speech communication and theatre arts. Ordinarily, the applicant's master's degree must be in an area within the field of creative arts. Applicants must demonstrate that they possess background relevant to their field, and must indicate that their needs and goals are in accord with the objectives of the CAGS.

All accepted students must enroll under the direction of their advisor in GS 501 Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of the catalogue. Each student's CAGS program must include the Division's CAGS Seminar in Creative Arts (HU 599), which is designed to provide a broad conceptualization of the field, as well as to focus the student's course of study on critical issues facing professionals in the field today. Remaining credit requirements will be fulfilled by courses which clearly meet the student's academic and career needs selected under the direction of the advisor.

Additional information regarding this program, including application procedures and general academic requirements, may be found in the Graduate School section of this catalogue.

Divisional Course Offerings

HU 311 Dante and Medieval Culture in Translation (3 crs.)

Life and culture of the Middle Ages approached through a close investigation of Dante's Divine Comedy.

HU 330 Teaching English as a Second Language (3 crs.)

Theoretical, historical and practical considerations of the teaching of English as a second language.

HU 502 Research (credit to be arranged)

Original research undertaken by the graduate student in an area within the Humanities. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

HU 503 Directed Study (credit to be arranged)

Designed for the graduate student who desires to study selected topics in the Humanities. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

HU 599 CAGS Seminar in the Creative Arts (3 crs.)

Designed to provide a broad conceptualization of the creative arts, focusing on critical issues facing professionals in the field.



Division of Natural Sciences and Mathematics

Biological Sciences
Chemical Sciences
Earth Sciences and Geography
Management Science and Aviation Science
Mathematics and Computer Science
Physics

Undergraduate Programs

The departments of the Division of Natural Sciences and Mathematics offer undergraduate majors in aviation science, biology, chemistry, professional chemistry, chemistry/geology, earth sciences, geography, management science, mathematics, computer science, and physics.

Undergraduate minors have been developed in aviation science, biology, chemistry, computer science, data processing, earth sciences, geography, geo-physics, management science, mathematics, physical science, physics, and urban affairs. There are also pre-dental, pre-medical, pre-veterinary, oceanography, and scientific illustration programs. Some majors, minors, and programs are of an interdisciplinary nature.

Undergraduate majors and minors are described under the department listings. Additional programs offered by the several departments of the Division are described in the section of this catalogue entitled *Undergraduate Multidisciplinary and Pre-Professional Programs*.

A variety of undergraduate course offerings may be taken by students who neither major nor minor in the academic areas indicated above. These courses may be taken either as free electives or to fulfill the general education requirements of the College.

Working closely with their academic advisors, students may plan programs of study which prepare them for graduate school or for immediate entry into the job market. Those who anticipate teaching any of the natural sciences or mathematics should plan part of their academic program in Professional Education. Information on this matter may be found under the appropriate department of this Division as well as under the Department of High School, Middle School, and Adult Education.

Graduate Programs

The departments of the Division offer programs leading to the degrees of Master of Arts in Biology and Chemistry and Master of Arts in Teaching in Biology, Chemistry, Earth Sciences, Geography, Mathematics, Physical Sciences, and Physics. In addition, the Division offers a program leading to the Certificate of Advanced Graduate Study (CAGS) in Natural Sciences and Mathematics. Specific information about these programs may be found below, as well as under the departments of the Division, and in the section of this catalogue entitled *The Graduate School*.

Certificate of Advanced Graduate Study (CAGS) in Natural Sciences and Mathematics

The Division offers a program leading to a Certificate of Advanced Graduate Study (CAGS) in Natural Sciences and Mathematics. This program is designed to meet the varied career needs of professionals who have earned an appropriate master's degree and who wish to attain greater competence in a combination of areas of study in the field of natural sciences and mathematics. Areas of study include biology, chemistry, earth sciences, geography, mathematics, physical sciences, and physics. Ordinarily, the applicant's master's degree must be in an area within the field of natural sciences and mathematics. Applicants must demonstrate that they possess an academic and experiential background relevant to their field, and must indicate that their needs and goals are in accord with the objectives of the CAGS.

All accepted students must enroll under the direction of their advisor in GS 501 Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of the catalogue. Each student's CAGS program must include the Division's CAGS Seminar in Natural Sciences and Mathematics (NS 599), which is designed to provide a broad conceptualization of the field, as well as to focus the student's course of study on

critical issues facing professionals in the field today. Remaining credit requirements will be fulfilled by courses selected under the direction of the advisor which clearly meet the student's academic and career needs.

Additional information regarding this program, including application procedures and general academic requirements, may be found in the Graduate School section of the catalogue.

Divisional Course Offerings

ID 260 Quantitative Methods in Earth Sciences and Geography (3 crs.)

The application of descriptive and inference statistical methods in dealing with problems or areal associations and spatial intersections in the earth sciences and geography. *(Prerequisite: GE 100 or ES 100, one year or more of mathematics, and consent of the Instructor)* Spring, semester

NS 300 Science and the Impact of Technology (3 crs.)

A study of the interplay of science and technology, the environmental, social, and economic consequences of technology, the effect of technical change on society, the management and control of technology, and the nature of the technological decision-making process. May be used to fulfill Group VI GER Elective only.

NS 400 Senior Interdisciplinary Seminar in Environmental Science (3 crs.)

Current environmental issues will be discussed and analyzed in detail from an interdisciplinary viewpoint. The importance of thorough analysis and planning in developing long-term solutions to environmental problems will be emphasized. Faculty with appropriate interdisciplinary backgrounds will participate. *(Prerequisite: An introductory course in environmental science or permission of the Instructors)*

NS 411 Introduction to Medicine for the Non-physician (3 crs.)

A survey of human medicine. Topics selected from anatomy, physiology, medical embryology, radiology, physical diagnosis, laboratory medicine, pathology, treatment of disease, and disease prevention. *(Prerequisite: BI 102 (or equivalent) and a semester of a college-level course in chemistry or physics, or consent of the Instructor)*

NS 599 CAGS Seminar in Natural Sciences and Mathematics (3 crs.)

Designed to provide a broad conceptualization of the field, focusing on critical issues facing professionals in science and mathematics today.



Division of Professional Education

Elementary and Early Childhood Education
Health, Physical Education, and Recreation
High School, Middle School and Adult Education
Media and Librarianship
Special Education
Counseling
Educational Leadership and Administration
CAGS in Education
Ed.D. in School Leadership and Administration*

Division Head: Dr. L. Stephen Traw,
Associate Academic Dean

The Division of Professional Education includes the Departments of Elementary and Early Childhood Education; Health, Physical Education, and Recreation; High School, Middle School, and Adult Education; Media and Librarianship; and Special Education; the Committees for Counseling and for Educational Leadership and Administration; the Burnell Campus School and the Office of Professional Education.

The Division offers undergraduate and graduate programs for the professional preparation of early childhood, elementary, middle and high school teachers, as well as for specialized positions in school and community-based organizations and agencies. The Division also provides service to the schools, community organizations, and agencies of the region. The Division conducts an on-going review of professional standards and requirements in order to respond to the changing needs of the profession.

The Burnell Campus School provides education majors and students throughout the College with practical experiences which complement the theoretical background available in more formal study. Extensive field experiences in schools and agencies off campus further contribute to the development of meaningful linkages between study and practice. Procedures and guidelines are implemented to ensure that high quality standards are maintained in field-based experiences.

Students following the curricula leading to a Bachelor of Science in Education degree are prepared as certified pre-school, elementary school, special needs or physical education teachers. Students majoring in most curricula

leading to a Bachelor of Arts or a Bachelor of Science degree may minor in High School Education and, when admitted to the Division of Professional Education, are prepared for high school teaching.

Undergraduate curricula offering degree and/or minor programs are:

Majors in:

Early Childhood Education
Elementary Education
Physical Education
Special Education*

Minors in:

Health
Instructional Media
Library Science
High School Education with majors in:
Anthropology French
Art Geography
Biology History
Chemistry Mathematics
Communication Arts Physics
& Sciences Psychology
Earth Sciences Sociology
English Spanish

**Requires double major in either Early Childhood Education or Elementary Education.*

**Collaborative program with the University of Massachusetts at Amherst*

Graduate curricula leading to the master's degree and Certificate of Advanced Graduate Study (CAGS) are offered in the following fields:

Master's Programs

Consult Office of:

Master of Arts in Teaching

High School, Middle School, and Adult Education (in conjunction with most of the departments outside of Education)

Master of Education in:

Early Childhood Education

Elementary and Early Childhood Education

Elementary Education

Elementary and Early Childhood Education

Elementary School Mathematics Reading

Elementary and Early Childhood Education

Health Science

Health, Physical Education and Recreation

Instructional Media School Librarianship Special Education Counseling

Media and Librarianship Media and Librarianship Special Education Counseling

School Administration

Educational Leadership and Administration

Master of Science in:

Physical Education

Health, Physical Education and Recreation

Post-Master's Programs:

Certificate of Advanced Graduate Study (CAGS) in Education

Information about this Divisional program appears in the Division of Professional Education section of this catalogue

Doctor of Education in School Leadership and Administration

Information about this collaborative program with University of Massachusetts at Amherst follows the description of the CAGS in Education

The Division of Professional Education, through its departments and committees, offers the following state approved programs leading to Massachusetts certification and interstate certification reciprocity with approximately thirty-two other states, the District of Columbia, and overseas dependent schools. Information on post-baccalaureate and graduate programs leading to certification is found in appropriate departmental sections.

* Early Childhood Teacher (K-3)

* Elementary School Teacher (1-6)

* Teacher of English (9-12)

* Teacher of History (9-12)

* Teacher of Geography (9-12)

* Teacher of Social Studies (9-12)

* Teacher of Mathematics (9-12)

* Teacher of Chemistry (9-12)

* Teacher of Physics (9-12)

* Teacher of Biology (9-12)

* Teacher of Earth Science (9-12)

* Teacher of Behavioral Science (9-12)

* Teacher of Physical Education (K-9)

* Teacher of Physical Education (5-12)

* Teacher of Health (K-9)

* Teacher of Health (5-12)

Consulting Teacher of Reading (All Levels)

* Teacher of Children with Moderate Special Needs (N-9)

Unified Media Specialist (N-9)

Unified Media Specialist (5-12)

Guidance Counselor (N-9)

Guidance Counselor (5-12)

School Principal (N-6)

School Principal (5-9)

School Principal (9-12)

Supervisor/Director (Various Levels)

* Superintendent/Assistant Superintendent

*These programs are approved by the National Council for the Accreditation of Teacher Education (NCATE).

Contact the appropriate department chairperson or graduate program coordinator for additional information.

The programs in the Division of Professional Education are designed as a series of experiences encompassing theoretical knowledge as well as its practical application through a sequence of field experiences culminating in the practicum. The goal of the program is the graduation of students with outstanding qualifications for teaching or related fields.

All undergraduate and graduate students preparing for a career in education and whose programs include the practicum and qualifying for certification must formally apply, satisfy all selection criteria, and *be recommended by their department for admission* to the Division of Professional Education.

Admission to and Retention in Professional Education — Undergraduate Education

The following is the established process for admission to an undergraduate certification program in Professional Education.

1. The student receives the application packet from the instructor of the introduction to education course (ED 220, EE 220, EE 230 or as prescribed in Physical Education).
2. The student submits the completed application packet and supporting documentation to his or her departmental advisor in Professional Education or as otherwise specified by the department. The advisor reviews and recommends the student for admission to the department if the criteria are met.
3. The department chairperson reviews and, if appropriate, recommends the applicant for admission to the Division of Professional Education.

The following criteria have been established as minimum requirements for admission to and retention in an undergraduate Teacher Education Program.

1. The undergraduate applicant must be a matriculated student at the College with a minimum Bridgewater State College Q.P.A. of 2.2.
2. The applicant must file with his or her advisor in Professional Education, proof of proficiency in written English by submitting evidence of undergraduate work having a mark of B or better in English Composition I (EN 101) or passing marks for English Composition I and II (EN 101 and EN 102), or by obtaining and submitting an equivalent score on a "challenge" or CLEP examination.
3. The applicant must be certified by the Speech Proficiency Committee as having taken and passed a speech proficiency test. The purpose of the test is to assure early diagnosis of any identified problem which pertains to having speech that is characterized by articulation disorders, or phonotory, volume or rate patterns which would draw undue attention or interfere with intelligibility.

The required speech proficiency screening is available to sophomores and transfer students. A certificate of Speech Proficiency is completed by the Proficiency Committee.

4. All students are required to complete a minimum of forty contact hours (20 hours for secondary education minors) working with children or youth in schools or other agencies as part of an introduction to education course (ED 220, EE 220, or as prescribed in Physical Education). Prior approval of the field experience and certification of satisfactory completion is provided by the instructor.

5. All applicants are required to submit a medical form completed and signed by an appropriate physician. The exam must include record of measles, mumps, and rubella, a tuberculin test and /or chest X-ray. The applicant must submit the results to the College Health Office.
6. In addition, the following may constitute a basis for denial of admission or retention: conduct unbecoming a professional educator, conviction of a crime (excluding minor traffic violations), evidence of specific behavior indicating that impairment, morals or mental health will be likely to interfere with satisfactory performance as a future teacher.
7. Department may require criteria in addition to those previously listed. Students are responsible for maintaining, therefore, communication with their department chairperson regarding change in their particular program.

The deadline for submitting a completed application for undergraduate applicants is as follows:

1. December 1 of the sophomore year for students completing ED 220, EE 220, or EE 230 during the fall semester. Students in the Department of Health and Physical Education should consult with their department chairperson for the deadline.
2. April 15 of the sophomore year for students completing ED 220, EE 220, EE 230 during the spring semester. Students in the Department of Health and Physical Education should consult with their department chairperson for the deadline.
3. The end of the first month of classes at Bridgewater State College for transfer students who have completed the sophomore year elsewhere.

Each applicant is responsible for ensuring that the application packet contains the application and the appropriate supporting documentation and is submitted to his or her professional education advisor by the deadline listed. A letter of acceptance into a teacher education program will be sent by the Associate Academic Dean to the applicant upon meeting the established criteria.

Students enrolling in Professional Education courses must have been officially accepted into the Division of Professional Education. Additionally, students must meet the retention requirements as set forth in this catalogue.

Departmental Application for Practicum — Undergraduate Education

The following is the established process for completing the undergraduate application for the practicum.

1. The student receives the application from his or her professional education advisor.
2. The student completes the application form in consultation with his or her departmental advisor. The advisor recommends the applicant for the practicum if the criteria are met.
3. The department chairperson reviews and, if appropriate, recommends the applicant for the practicum through his or her department.

The following are the criteria for admission to the departmental practicum.

1. The departmental application for practicum must be filed by February 1 for placement the following academic year.
2. Undergraduate students must have attained a minimum Bridgewater State College Q.P.A. of 2.2. Some departments in the Division may require a higher Q.P.A.; therefore, please consult with the appropriate departmental advisor.

To insure standards of quality, all practica are completed within the College's service area and under the supervision of faculty in the Division of Professional Education.

Students may not carry other courses while student teaching. Additionally, students may not work without written approval by the department.

Admission to and Retention in the Division of Professional Education — Graduate Education

The following requirements and criteria for admission to and retention in certification and degree programs in the Division of Professional Education have been established.

1. All students must complete and file a formal application.
2. All applicants for admission are required to submit a medical form completed and signed by an appropriate physician. The exam must include a record of measles, mumps, and rubella, a record of a tuberculin test and/or chest X-ray. The applicant must submit the results to the College Health Office.

Additional criteria may be specified by a particular education program to which admission is sought. Additional information may be obtained from the appropriate departmental office.

The application for admission is completed at the same time as the application for admission to the Graduate School.

Departmental Application for Practicum — Graduate Education

The following is the established process for completing the graduate application for the practicum.

1. The student receives the application from his or her education graduate advisor.
2. The student completes the application form in consultation with his or her advisor. The advisor recommends the applicant for the practicum if the criteria are met.
3. The graduate coordinator reviews and, if appropriate, recommends the applicant for the practicum through his or her graduate program.

The following are the criteria for admission to the departmental practicum.

1. The departmental application for practicum must be filed by February 1 for a practicum the following fall semester and September 30 for a practicum the following spring semester.
2. A current tuberculin test and/or chest X-ray must be submitted to the College Health Service before placement in the Practicum.

Verification of Completion of Departmental State Approved Program — Undergraduate and Graduate Education

The following is the established process for verifying completion of the departmental state approved program.

1. The student receives the verification packet from the academic advisor.
2. The student submits the completed application to his or her academic advisor within the established deadline. The advisor reviews and verifies that the student has successfully completed the departmental state approved program.
3. The department chairperson or graduate coordinator reviews and, if appropriate, confirms that the applicant has successfully completed the departmental state approved program.

Waivers for Certification

Undergraduates and graduate students with prior courses and/or experiences which are equivalent to or exceed those required in a particular State approved program (Certification Standards I-V) may request a waiver by way of their academic advisor through their department. Students should contact their advisor for a copy of this institutional process.

Professional Education Review Process

A student who experiences a problem pertaining to program waiver, certification or other matters may request consideration under the established divisional review process.

The first step is for the student to meet with his/her advisor. If the situation cannot be resolved at this level the student and/or advisor will then proceed to the Department Chairperson or Graduate Coordinator. Should the student's situation not be resolved, then the student may petition the Associate Academic Dean of the Division of Professional Education for review. This review is designed to assure that all established procedures have been appropriately followed.

Certificate of Advanced Graduate Study (CAGS) In Education

The Division offers a program leading to a Certificate of Advanced Graduate Study (CAGS) in Education, which is designed to meet the varied career needs of professionals who have earned an appropriate master's degree. The primary objectives of this program are to increase the individual's competence in designated areas of study and, by broadening the person's background, to develop increased leadership ability for addressing significant educational/societal issues. Students are required to take at least three courses in their major area of study. In appropriate cases, students will be permitted to follow a program of study in their major area which is designed to meet Massachusetts certification standards. Areas of study offered include:

computers in education	high school, middle school,
counseling (school and community)	and adult education
early childhood education	instructional media
elementary education	physical education
elementary school mathematics	school administration
health science	school librarianship
	special education

Applicants must demonstrate that they possess an academic and experiential background relevant to their field, and must indicate that their needs and goals are in accord with the objectives of the CAGS. In addition to submitting CAGS application material to the Graduate School Office, students must enroll prior to program acceptance in ED 570 CAGS Seminar. (Students who intend to emphasize the area of school administration should enroll in SA 510 Seminar on Educational Leadership for the Future.) The objectives of ED 570 are to allow for a professional assessment of the applicant on a personalized basis; to provide the student with a broad conceptualization of the field, as well as to focus the

student's course of study on critical issues facing professionals in the field today; and to initiate individual program planning.

All accepted students must enroll under the direction of their advisor in GS 501 Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue. CAGS credit requirements must be fulfilled by approved courses which clearly meet the student's academic and career needs. Appropriate course work offered outside of the Division will be permitted on a limited basis. In addition to ED 570 CAGS Seminar, students ordinarily will be required, near the completion of their CAGS program, to enroll in ED 581 CAGS Extern Program. The objective of this course is to help the student in a supportive environment enter into new leadership responsibilities making use of the knowledge and skills acquired in their CAGS program of study.

Additional information about the CAGS in Education, including application procedures and academic requirements, may be found in the Graduate School section of this catalogue and by contacting the Graduate School Office.

University of Massachusetts at Amherst Collaborative Doctor of Education Program

A collaborative Ed.D. program in School Leadership and Administration is offered by Bridgewater State College and the University of Massachusetts at Amherst. For details, see the description of this degree program under the Graduate School Section of the catalogue.

Divisional Course Offerings

ED 555 Introduction to Statistics and Computer Analysis I (3 crs.)

Elementary descriptive statistics, control of the computer terminal, inferential statistics, and some programming concepts with a computer language for unique solutions of problems. (*Prerequisite: GC 500 or its equivalent*)

ED 570 CAGS Seminar (3 crs.)

Designed to provide for individual self-appraisal, institutional assessment, and professional development planning. Provides a broad conceptualization of the field of education and educational leadership; addresses critical societal issues involving education today; focuses on faculty and course resources and the design of the applicant's proposed CAGS program, as influenced by the student's self-assessment and potential leadership responsibilities.

ED 581 CAGS Extern Program (3 crs.)

A blend of on-the-job training with a seminar approach to leadership and problem solving that is largely self-directed, evolves from the problems of the individuals comprising the group, is informal, provides long uninterrupted period for discussions and interaction of problem statements and of ideas shared in formal presentations.



Division of Social Sciences

Economics
Geography as a Social Science
History
Political Science

Undergraduate Programs

The Division of Social Sciences offers majors in history and political science. There is no major in economics but majors in history and political science are encouraged to select courses in economics and geography to enrich their programs in the area of the Social Sciences.

Students majoring in political science who plan to teach may combine electives in history and education and thus obtain certification in history and the Social Sciences.

Graduate Programs

At the graduate level the Master of Arts degree is offered in the field of history. The degree of Master of Arts in Teaching is offered in history and social sciences.

Divisional Course Offering

SS 300 Geography and History of Mexico (3 crs.)

The history of colonial New Spain and modern Mexico, focusing on the relationship of the physical environment to the culture of the indigenous population of the Spanish contributions in the development of the nation.



Department of Art

Chairperson: Assistant Professor Dorothy Pulsifer
Professors: John Droege, Roger Dunn, Joan Hausrath,
John Heller, William Kendall, Stephen Smalley
Instructor: Mercedes Nunez

Undergraduate Programs

Bachelor of Arts

The art major at Bridgewater State College is designed to meet the needs of those students whose study and career ambitions include training in the following areas of the visual arts:

- Studio Art
- Crafts
- Art Education
- Commercial Art

Programs on the undergraduate level also provide preparation for graduate study, and offer internships that give first-hand experience in such areas as museology, exhibition planning, community art programs, and graphic design.

Students interested in teaching must select High School Education as a minor. Prospective teachers of art are encouraged to join the Student Chapter of the National Art Education Association.

Art majors not interested in an education minor are urged to select a minor complementing their interests with the major.

The diversity of course offerings within the Art Department provides an excellent opportunity for students electing an art minor to enlarge upon their cultural foundation and develop skills. Through a cultivation of aesthetic sensibilities, it is hoped that the entire college experience will be enriched.

To help insure an appropriate selection of art courses in the major or minor, it is important that each student work closely with his or her art advisor or the department chairperson in program selection. This is particularly

important within an instructional program that seeks to develop and refine art skills as well as enlarging upon one's creative dimensions.

Students should be aware that typically there will be expenses in studio courses for materials beyond the required educational services fees.

A comprehensive gallery calendar is maintained throughout the academic year in the Wallace L. Anderson Gallery as well as a continuing exhibition of the permanent art collection of the College. Each gallery facility features a diversity of art that enhances classroom instruction.

Art Major

AR 125 Drawing I

AR 130 Two-Dimensional Design

AR 140 Three-Dimensional Design

AR 201 Art Survey: Prehistoric, Ancient and Medieval

AR 202 Art Survey: Renaissance, Baroque and Modern

AR 225 Drawing II

AR 230 Painting I

AR 240 Sculpture I

One printmaking course from the following:

AR 250 Intaglio Printmaking I

AR 251 Silkscreen I

AR 252 Lithography I

AR 253 Relief Printmaking I

AR 307 20th Century Art and Architecture

One crafts course (3 crs.) from, but not limited to, the following:

AR 270 Ceramics

AR 273 Introduction to Glass

AR 280 Metals I

AR 290 Weaving I

AR 291 Tapestry Weaving

(AR 270 is required of Education minors)

One additional 3-credit art elective.

Commercial Art Concentration

AR 125 Drawing I
AR 130 Two-Dimensional Design
AR 140 Three-Dimensional Design
AR 202 Art Survey: Renaissance, Baroque, and Modern
AR 225 Drawing II
AR 230 Painting I
AR 240 Sculpture I
AR 260 Introduction to Commercial Art
AR 261 Layout and Graphic Design
AR 262 Commercial Illustration
AR 263 Lettering & Typography
AR 307 Twentieth Century Art and Architecture
Cognate Courses:
ME 152 Basic Photography
PY 280 Consumer Psychology

Admission to the Commercial Art Concentration is based on a portfolio review, but commercial art courses may be taken without this review. Normally the review should follow successful completion of AR 260.

Minor in High School Education

Students minoring in education must refer to the Department of High School, Middle School and Adult Education for specific requirements, and consult with the Art Education Coordinator, Dr. Stephen Smalley, for additional information.

Art Minor

AR 125 Drawing I
AR 130 Two-Dimensional Design
The remaining twelve credits are selected in conjunction with an art advisor.

Art History Minor

Not open to art majors.

AR 201 Art Survey: Prehistoric, Ancient and Medieval (required)

AR 202 Art Survey: Renaissance, Baroque and Modern (required)

Select 5 courses from:

AR 203 American Art and Architecture

AR 205 Far Eastern Art

AR 302 Greek and Roman Art

AR 303 Medieval Art and Architecture

AR 304 Renaissance Art and Architecture

AR 305 Baroque Art

AR 306 19th Century Art and Architecture

AR 307 20th Century Art and Architecture

AR 311 Primitive Art

AR 313 Art and Architecture of Early New England

AR 414 Art History Study Tour (Advanced)

Programs Preparatory to Graduate Study

Scientific and Technical Illustration

Students interested in pursuing scientific illustration at the graduate level should consult the section of this catalogue entitled "Undergraduate Multidisciplinary and Pre-Professional Programs" for details.

Art Therapy

For students interested in pursuing Art Therapy at the graduate level, the Art Department recommends an art major with a minor in psychology, or a psychology major with an art minor.

Graduate Programs

The Department of Art offers courses at the graduate level which may be taken in the Division's Master of Arts in Teaching and CAGS programs in Creative Arts. A diverse and appropriate program of study in art is ensured when the student works closely with the advisor in course selection. It should be noted that students applying to the MAT in Creative Arts program who plan to concentrate in the area of art must have a minimum background of 18 credits in art prior to acceptance.

More detailed information regarding this program may be found under the Division of Humanities and Creative Arts, as well as in the Graduate School section of this catalogue.

The departmental offerings listed below include the following courses which may not be taken for graduate credit:

AR 101 Introduction to Art

AR 102 Introduction to Architecture

AR 112 Introduction to Studio Art

AR 499 Directed Study in Art

Course Offerings*

AR 101 Introduction to Art (3 crs.)

Emphasis on painting, sculpture, and architecture. Topics include aesthetic principles, artistic styles and their historical contexts, analysis of media and technical processes. A museum visit is assigned. Formerly AR 110. Satisfies the GER in Artistic Modes of Expression. *Either semester*

AR 102 Introduction to Architecture (3 crs.)

Domestic, religious, commercial and governmental buildings throughout history are studied in terms of elements of style, systems and materials of architectural construction, and the symbolic and expressive qualities of buildings. Formerly AR 111. Satisfies the GER in Artistic Modes of Expression. *Either semester*

AR 112 Introduction to Studio Art (3 crs.)

Studio exercises develop concepts of visual design, style, and expression explored through various two- and three-dimensional media: paint, ink, clay, wood, etc. A museum/gallery visit is assigned. Six hours per week. Satisfies the GER in Artistic Modes of Expression (Studio course). *Either semester*

AR 125 Drawing I (3 crs.)

Basic concepts of perspective, modeling in light and dark and contour drawing are explored through various media and techniques including pencil, pen and ink, ink wash and charcoal. Six hours per week. Formerly AR 220. Satisfies the GER in Artistic Modes of Expression (Studio course). *Either semester*

AR 130 Two-Dimensional Design (3 crs.)

Fundamental elements and principles of two-dimensional design, including color, shape, line, texture, balance, space, and the organization of these elements in a work of art are studied through studio exercises. Six hours per week. Formerly AR 120. Satisfies the GER in Artistic Modes of Expression (Studio course). *Either semester*

AR 140 Three-Dimensional Design (3 crs.)

Studio projects are concerned with the elements and composition of form and mass in three-dimensional space, including aspects of media, surfaces and dynamics of interacting forms and space. Six hours per week. Formerly AR 121. Satisfies the GER in Artistic Modes of Expression (Studio course). *Either semester*

AR 201 Art Survey: Prehistoric, Ancient & Medieval (3 crs.)

Major developments in painting, sculpture and architecture are examined from the prehistoric through the late Gothic periods in the Mediterranean area and northern Europe. Emphasis is placed on the evolution of styles and their bases in the needs and values of each culture. A museum visit is assigned. Satisfies the GER in Artistic Modes of Expression. *Either semester*

AR 202 Art Survey: Renaissance, Baroque & Modern (3 crs.)

Major developments in painting, sculpture and architecture are examined from the Renaissance into the modern era within Europe and the United States. Stylistic analysis is integrated with an historical approach. A museum visit is assigned. Satisfies the GER in Artistic Modes of Expression. *Either semester*

AR 203 American Art and Architecture (3 crs.)

Trends in architecture, painting, sculpture and crafts are surveyed from the first colonial settlements in America to the achievements of the present day. Included are vernacular, folk, and regional styles. A museum visit is assigned. Formerly AR 308. Satisfies the GER in Artistic Modes of Expression. *Offered once every three years*

AR 205 Far Eastern Art (3 crs.)

Major achievements in architecture, sculpture, pictorial arts and decorative arts of India, China, and Japan will be the focus of this survey, with some attention given to the other cultures of the Far East. A museum visit is assigned. Satisfies the GER in Non-Western Civilization

AR 214 Art History Study Tour (3 crs.)

A broad range of topics in the history of art is studied in museums and architectural sites in Europe. Preparatory classwork is conducted on campus prior to travel; assignments and exams are completed upon return. This course may be taken twice with different itineraries and course topics; please note that only 3 credits may be applied to the General Education Requirements. Satisfies the GER in Artistic Modes of Expression. *Offered summers and intersessions only*

AR 225 Drawing II (3 crs.)

Advanced study of drawing style and technique with emphasis on the human figure. Six hours per week. Formerly AR 320. (Prerequisite: AR 125 or consent of the Instructor) *Either semester*

AR 230 Painting I (3 crs.)

Basic skills, picture organization, and painting techniques applied to assigned problems. Field trips to museums and galleries. Six hours per week. (Prerequisite: AR 125 and AR 130 or consent of the Instructor) *Either semester*

AR 235 Watercolor Painting I (3 crs.)

Development of transparent watercolor techniques and pictorial composition. Six hours per week. *Either semester, offered once each year*

AR 240 Sculpture I (3 crs.)

Design experimentation with traditional and new problems in a wide range of media. Six hours per week. (Prerequisite: AR 140) *Either semester*

AR 250 Intaglio Printmaking (3 crs.)

Techniques and aesthetic considerations of etching, engraving, aquatint, and related media, with emphasis on understanding the technical processes of graphic image making. Six hours per week. (Prerequisites: AR 125 and AR 130) *Fall semester*

AR 251 Silkscreen I (3 crs.)

An introduction to traditional and innovative serigraph methods: glue, tusche, paper, cut film and photographic stencil. Six hours per week. (Prerequisite: AR 125 and AR 130) *Either semester*

AR 252 Lithography (3 crs.)

An exploration of the technical and aesthetic possibilities of lithography in black and white and color. Stone lithography, metal plates and paper plates will be utilized. Six hours per week. (Prerequisite: AR 125 and AR 130) *Either semester*

AR 253 Relief Printmaking I (3 crs.)

Techniques and aesthetic considerations of woodblock, wood engraving, linocut, and related media, with emphasis on understanding the technical processes of graphic image making. Six hours per week. (Prerequisite: AR 125 and AR 130) *Fall semester*

AR 260 Introduction to Commercial Art (3 crs.)

Art as it is used in advertising and commercial design including illustration; layout; typography; space, package, and object design. Includes field trips and guest speakers. Six hours per week. (Prerequisite: Art major or consent of the Instructor) *Either semester*

AR 270 Ceramics I (3 crs.)

Introduction to materials and techniques including handbuilding, wheel work, decorating, and firing. Six hours per week. *Either semester*

*See pages 66-67 for general information regarding course offerings.

AR 273 Glass I (3 crs.)

An exploration of the technical, traditional and contemporary, and aesthetic possibilities of glass: copper foil, lead came work, fusing, slumping and enamels. Six hours per week. *(Prerequisite: AR 130 or consent of the Instructor) Either semester*

AR 280 Metals I (3 crs.)

Basic design, construction, and forming techniques. Jewelry, constructed forms, sculpture. Six hours per week. *Either semester*

AR 290 Weaving I (3 crs.)

Introduction to traditional and contemporary weaving and related techniques. Assigned projects stress the aesthetic combined with the technical considerations of fiberwork. Six hours per week. *Either semester*

AR 302 Greek and Roman Art and Architecture (3 crs.)

Painting, sculpture, architecture and the minor arts. Historical antecedents and significant cultural influences in art. *Offered once every three years*

AR 303 Medieval Art and Architecture (3 crs.)

A study of painting, architecture, sculpture and minor arts produced in Europe from the time of early Christianity to the Renaissance. Special emphasis on stylistic and cultural influences. *Offered once every three years*

AR 304 Renaissance Art and Architecture (3 crs.)

The development of the arts of architecture, painting, and sculpture in the Early and High Renaissance, with special emphasis on their interrelationships and their relation to the artistic theories and cultural ideals of the time. *Offered once every three years*

AR 305 Baroque Art (3 crs.)

Mannerist and Baroque styles of the sixteenth through eighteenth centuries will be studied, with emphasis on their origins in Italy and development through Western Europe. *Offered once every three years*

AR 306 19th Century Art and Architecture (3 crs.)

A study of European art and architecture from Neo-Classicism to Post-Impressionism. Attention given to the historical and cultural settings in which the art was produced. *Offered once every three years*

AR 307 20th Century Art and Architecture (3 crs.)

A study of major movements in art and architecture of the 20th century. Attention given to the theoretical foundations for these modern artistic movements as well as their stylistic distinctions. *Offered alternate semesters*

AR 310 Art and the Crafts in Special Education (3 crs.)

Art education theory and direct experience with a variety of materials and processes adapted to the needs of special education. Six hours per week. *Either semester*

AR 315 Drawing/Painting: Coastal Maine Workshop (3 crs.)

A two-week in-residence workshop in coastal Maine where shorelines, ocean, woods, and local villages interact to provide an aesthetic unique to the region. Drawing and/or painting activities will have a particular relationship to the natural surroundings. May be taken twice for a total of 6 credits. *Offered summers only*

AR 325 Advanced Drawing (3 crs.)

Advanced projects will be undertaken in chosen media under direct supervision of a faculty member. This course may be taken three times. Six hours per week. Formerly AR 420. *(Prerequisite: AR 125, AR 225, and consent of the Instructor) Either semester*

AR 330 Painting II (3 crs.)

Advanced projects will be planned according to the individual's stylistic development. Six hours per week. *(Prerequisite: AR 230 or consent of the Instructor) Either semester*

AR 335 Watercolor Painting II (3 crs.)

Advanced work in transparent watercolor planned according to the individual's stylistic development. Six hours per week. *(Prerequisite: AR 235 or consent of Instructor) Offered once each year*

AR 340 Sculpture II (3 crs.)

Advanced projects in design and media. Six hours per week. *(Prerequisite: AR 240 or consent of the Instructor) Either semester*

AR 350 Printmaking II (3 crs.)

Advanced projects in intaglio, silkscreen, lithography, and/or relief are planned according to the student's technical skills and stylistic development. Six hours per week. *(Prerequisite: Consent of the instructor and one of the following: AR 250, AR 251, AR 252, or AR 253) Either semester*

AR 360 The Artist Marketplace (3 crs.)

The business and professional side of art, and the pursuit and management of a career in art. A study of galleries, museums, and commercial art fields, dealing with aspects of exhibiting and selling work, and the development of relevant business skills. Includes field trips and guest speakers. *Offered alternate years*

AR 361 Layout and Graphic Design (3 crs.)

Analysis of graphic design concepts; paste-up and layout techniques; and the process of image development and evaluation. Six hours per week. Formerly AR 261. *(Prerequisite: AR 125, AR 130, AR 260, and consent of Instructor) Offered once each year*

AR 362 Commerical Illustration (3 crs.)

Drawing styles and techniques relative to the representational, technical, decorative, and expressive applied to the specific needs of the commercial field, including product, fashion, and architectural form. The course will consider illustration for newspaper and magazine advertising, direct mail advertising, promotional display, book arts, and print literature. Six hours per week. Formerly AR 262. *(Prerequisite: AR 125, AR 130, AR 260, and consent of Instructor) Offered once each year*

AR 363 Lettering and Typography (3 crs.)

Visual design considerations with hand lettering, calligraphy, and hand and machine-set type. Six hours per week. Formerly AR 263. *(Prerequisite: AR 125, AR 130, AR 260, and consent of Instructor) Offered once each year*

AR 364 Interior Design (3 crs.)

Form and function of contemporary domestic and commercial spaces. Studio and field experiences related to problem analysis, construction techniques and materials. Six hours per week. Formerly AR 312. *Offered once every three years*

AR 370 Ceramics II: Advanced Projects & Techniques (3 crs.)

Advanced problems and techniques. Six hours per week. *(Prerequisite: AR 270) Either semester*

AR 371 Wheel Throwing (3 crs.)

Advanced problems and experience on the potter's wheel, and aesthetics of ceramic design. Six hours per week. *(Prerequisite: AR 270 or consent of the Instructor) Either semester*

AR 372 Clay and Glazes (3 crs.)

Advanced work in the chemistry and compounding of clay and glaze materials. Six hours per week. *(Prerequisite: AR 270 or consent of the Instructor) Either semester*

AR 373 Glass II (3 crs.)

Projects will be undertaken under direct supervision of a faculty member to develop techniques included in Glass I, with the addition of slumping, casting, and sand blasting. Classes meet for six hours per week. *(Prerequisite: AR 273) Offered once each year*

AR 380 Metal Design II (3 crs.)

Advanced problems and techniques. Six hours per week. *(Prerequisite: AR 280 or consent of the Instructor) Either semester*

AR 381 Advanced Jewelry Design (3 crs.)

Specialized techniques for the design and creation of jewelry in precious metals, and experimental construction techniques with these metals. Six hours per week. *(Prerequisite: AR 280 or consent of the Instructor) Either semester*

AR 390 Weaving II (3 crs.)

Advanced problems and techniques. Six hours per week. *(Prerequisite: AR 290 or consent of the Instructor) Either semester*

AR 414 Art History Study Tour (Advanced) (3 crs.)

A broad range of topics in the history of art is studied in museums and architectural sites in Europe. Preparatory classwork is conducted on campus prior to travel; assignments and exams are completed upon return. This course may be taken twice with different itineraries and course topics. *Offered summers and intersessions only*

AR 430 Advanced Painting (3 crs.)

Advanced projects will be undertaken in chosen media under direct supervision of a faculty member. This course may be taken three times. Six hours per week. *(Prerequisite: AR 230, 330, and consent of the Instructor) Either semester*

AR 440 Advanced Sculpture (3 crs.)

Advanced projects will be undertaken in chosen media under direct supervision of a faculty member. This course may be taken three times. Six hours per week. *(Prerequisite: AR 240, 340, and consent of the Instructor) Offered once each year*

AR 450 Advanced Printmaking (3 crs.)

Advanced projects will be undertaken in chosen media under direct supervision of a faculty member. This course may be taken three times. Six hours per week. *(Prerequisite: AR 250, 350, and consent of the Instructor) Offered once each year*

AR 470 Advanced Ceramics (3 crs.)

Advanced projects will be undertaken in chosen media under direct supervision of a faculty member. This course may be taken three times. Six hours per week. *(Prerequisite: AR 270, 370, and consent of the Instructor) Offered once each year*

AR 473 Advanced Glass (3 crs.)

Advanced projects will be undertaken in chosen techniques under direct supervision of a faculty member. This course may be taken three times. Classes meet for six hours per week. *(Prerequisite: AR 373) Offered once each year*

AR 480 Advanced Metals (3 crs.)

Advanced projects will be undertaken in chosen media under direct supervision of a faculty member. This course may be taken three times. Six hours per week. *(Prerequisite: AR 280, 380, and consent of the Instructor) Offered once each year*

AR 490 Advanced Weaving (3 crs.)

Advanced projects will be undertaken in chosen media under direct supervision of a faculty member. This course may be taken three times. Six hours per week. *(Prerequisite: AR 290, 390, and consent of the Instructor) Offered once each year*

AR 492 Topics in Art (3 crs.)

Topics of limited or special interest in Art Education, Art History or Studio Art. Specific topics to be announced prior to registration. Course may be repeated for different topics. *(Prerequisite: Consent of the Instructor) Either semester*

AR 498 Internship in Art (3-15 crs.)

A non-classroom experience designed for a limited number of junior and senior majors to complement their academic preparation. *(Prerequisite: Consent of Department Chairperson; formal application is required) Either semester*

AR 499 Directed Study in Art (1-3 crs.)

Open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. *(Prerequisite: Consent of the Department) Either semester*

Other Approved Courses:

AR 291 Tapestry Weaving
AR 300 Methods and Materials in Art: Preschool, K-6
AR 311 Primitive Art
AR 313 Art and Architecture of Early New England
AR 491 Art Education Seminar

AR 502 Research (credit to be arranged)

Original research undertaken by the graduate student in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

AR 503 Directed Study (credit to be arranged)

Designed for the graduate student who desires to study selected topics in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

AR 530 Advanced Painting (3 crs.)

Within the context of the classroom environment, students will move toward individual imagery development including exploration of new media and techniques as appropriate and supported by regular critiques by the instructor. *(Prerequisite: 6 credits in painting or consent of the Instructor)*

AR 540 Advanced Sculpture (3 crs.)

This is a sculpture course designed to challenge the student's grasp of the function of form and its expressive potential through the study of pure form and forms in nature. The materials used are clay, plaster, wood and metal. *(Prerequisite: 6 credits in sculpture or consent of the Instructor)*

AR 550 Advanced Printmaking (3 crs.)

Printmaking for those with previous experience. Course objectives and requirements will be planned on the basis of the individual student's interests and background. *(Prerequisite: 6 credits in printmaking or consent of the Instructor)*

AR 570 Advanced Ceramics (3 crs.)

Work in wheel-throwing, handbuilding, sculptural ceramics, clay technology, glaze chemistry, or studio management in an individualized program depending upon the student's previous course work, abilities, and interests. *(Prerequisite: 6 credits in ceramics or consent of the Instructor)*

AR 580 Advanced Metals (3 crs.)

Work in surface embellishment, construction, casting, and forming of non-ferrous metals. Emphasis on experimentation with new technology, materials, and techniques. *(Prerequisite: 6 credits in metal or consent of the Instructor)*

AR 590 Advanced Weaving (3 crs.)

Advanced work in fiber planned in accordance with the student's prior course work and experience. Emphasis given to thorough exploration of color, design, and fiber selection in the execution of technically ambitious projects. Areas of study may include rug weaving, eight-harness double weaves, sculptural weaving and tapestry.



Department of Biological Sciences

Chairperson: Professor James Brennan
Professors: Walter Hewitson, Kenneth J. Howe,
 John Jahoda, Walter Morin,
 Florian Muckenthaler, Diane Peabody
Associate Professors: Hardy Moore,
 Doraiswami Shanmugasundaram
Assistant Professor: Sandra Whelan

The Department offers an undergraduate program leading to the degree of Bachelor of Arts or Bachelor of Science and a graduate program leading to the degree of Master of Arts or Master of Arts in Teaching. The goal of the undergraduate program is to provide students with broad backgrounds allowing for flexibility in making career choices. Students enrolled in the graduate program have the opportunity to develop their skills and knowledge in more specialized areas.

Undergraduate Programs

Bachelor of Arts/ Bachelor of Science

A broad background is promoted by a core of 30 credits from the biological, botanical and zoological disciplines along with 18 credits from chemistry, mathematics and physics. Specifically, the following courses or their equivalents (as determined by the department) must be completed:

BI 100 General Principles of Biology
 BI 104 Animal Morphology
 BI 200 Cell Biology
 BI 240 Plant Morphology
 BI 282 Comparative Chordate Anatomy
 or
 BI 284 Invertebrate Zoology
 BI 321 Genetics
 BI 341 Plant Physiology
 BI 373 Animal Physiology
 BI 425 Ecology
 BI 428 Microbiology
 CH 131-132 General Chemistry I-II
 MA 103 Elements of Calculus I, followed by a one-semester course in calculus (MA 104 is recommended) or statistics or computer science
 PH 181-182 Elements of Physics I-II

The above courses and credits are required of Biology Majors who are minoring in High School Education or who have a second major with another academic department. Second majors especially appropriate to biologists today are Chemistry, Computer Science, Health Science, Psychology, and Physics, but a student might choose any other major approved by the College.

Students who are not minoring in High School Education or who have not officially declared a second major must complete the following additional requirements:

Two biology elective courses. At least one of the biology elective courses must be a laboratory course.
One year of a foreign language or CH 343-344 Organic Chemistry.

The purpose of the two biology electives is to provide the student with the opportunity to complement the broad background obtained in the biological sciences with further training in an area of individual student interest. Normally, students should try to take the required courses in biology, chemistry, mathematics and physics in the following sequence:

Freshman: 1st Semester — BI 100 General Principles of Biology, CH 131 General Chemistry I, MA 103 Elements of Calculus I; 2nd Semester — BI 104 Animal Morphology, CH 132 General Chemistry II, MA 104 Elements of Calculus II or statistics or computer science.

Sophomore: 1st Semester — BI 240 Plant Morphology, PH 181 Elements of Physics I; 2nd Semester — BI 282 Comparative Chordate Anatomy or BI 284 Invertebrate Zoology, PH 182 Elements of Physics II, BI 200 Cell Biology.

Junior: 1st Semester — BI 321 Genetics, BI 341 Plant Physiology; foreign language or CH 343 Organic Chemistry I; 2nd Semester — BI 373 Animal Physiology; foreign language or CH 344 Organic Chemistry II.

Senior: 1st Semester — BI 425 Ecology; 2nd Semester — BI 428 Microbiology (Students minoring in Secondary Education should take BI 428 2nd Semester of the junior year and ED 490 during the 2nd Semester of the senior year).

Upon completion of the General Education Requirements for the College and the requirements for a major in the biological sciences, a student is left with a number of free elective courses to take, bringing the total number of credits earned to the 120 required for graduation. These free elective courses might be used most effectively to gain further knowledge and training in the biological sciences or cognate areas, to complete a minor in a discipline other than biology, or to participate in one of the Multidisciplinary Programs (see catalogue section, Undergraduate Multidisciplinary and Pre-Professional Programs).

The following courses do not fulfill any of the requirements for the Biology Major:

BI 110 Humans and Their Role in Nature
BI 112 Biology and Human Thought
BI 113 Fundamentals of Biology
BI 115 The Microbial World and You
BI 118 Evolution
BI 121 Conservation and Natural Resources
BI 171 Human Anatomy and Physiology I
BI 172 Human Anatomy and Physiology II
BI 210 The Biological Environment
BI 214 CPR Instructor's Course
BI 216 The Insect World
BI 217 Man, Insects and Disease
BI 224 Introduction to Microbiology
BI 280 Human Physiology
BI 311 Heredity and Human Endeavor

They duplicate material presented in more rigorous biology courses and should not be used as free elective courses.

Each student majoring in Biology will be assigned an advisor from among the faculty of the department. Students should consult with their advisors frequently to receive academic counseling and to verify that they are completing the requirements for graduation.

STUDENTS WHO HAVE NOT DECLARED A MAJOR AND WHO BELIEVE THEY MIGHT SELECT A MAJOR IN THE BIOLOGICAL SCIENCES SHOULD CONSULT WITH THE DEPARTMENTAL CHAIRPERSON AS SOON AS POSSIBLE. SUCH STUDENTS ESPECIALLY NEED EARLY COUNSELING IF THEY WISH TO GRADUATE IN THE NORMAL FOUR YEAR PERIOD.

Minor in High School Education

Students minoring in education must refer to the Department of High School, Middle School, and Adult Education for specific teacher certification and program requirements.

Minor in the Biological Sciences

A minor consists of 18-21 credits in Biology. Students must take BI 100 General Principles of Biology or its equivalent and five additional courses planned in consultation with their advisor and the Chairperson of Biological Sciences. If more than one introductory course is taken, *either* BI 102 Introduction to Zoology or BI 104 Animal Morphology (not both) may be taken in addition to BI 100 General Principles of Biology. Among the courses submitted in fulfillment of the Biology Minor, at least three of the six must be laboratory courses.

Graduate Programs

Master of Arts

The Department offers a program leading to the degree of Master of Arts in Biology, which is designed to prepare qualified students for research, further graduate study and teaching.

All applicants for the degree must be interviewed by the Chairperson of the Department for the purpose of assessing the student's background and determining research interests. If the applicant does not possess an adequate background, he or she may be required to correct deficiencies by enrolling in undergraduate courses without applying credit from those courses towards the graduate program requirements. The Chairperson shall also arrange for meetings with faculty who are likely to be involved in directing research and preparation of the thesis.

All accepted students must enroll under the direction of their advisor in GS 501 Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue. In addition to meeting general degree requirements, the student must complete a minimum of thirty appropriate graduate credits in the biological sciences. All courses taken by the graduate student must have the approval of the faculty advisor. During the first semester of graduate work an oral preliminary examination will be given to aid the faculty advisor in planning the student's program of study.

A demonstrated reading knowledge with the use of a dictionary of one foreign language is required for the M.A. Degree. The language examination will be given in the Department of Biological Sciences, Conant Science Building, the second Friday in December and the second Friday in May of each academic year. No more than two hours will be allowed for the examination, which will be evaluated by a member of the language department. The request for an examination must be made to the student's advisor at least

two weeks preceding the date of the examination. Students may not register for courses beyond 12 credits until the language examination has been passed. No more than three attempts to satisfy the language requirement will be permitted.

Students may elect to participate in original laboratory or field research (up to nine of the thirty credits) under the direction of a faculty member and to prepare a thesis based on the research. Alternatively, a student may choose to satisfy the research requirement by electing to conduct library research (up to six of the thirty credits) on a specific topic and to prepare a thesis based on such research under the direction of a faculty advisor. A student is required to register for BI 502 Research during any term that College facilities are being utilized or faculty supervision is required by the student to conduct research. Research opportunities are available within certain areas of the following general fields:

Animal Behavior	Invertebrate Zoology
Animal Physiology	Marine Biology
Biochemistry	Microbiology
Cell Biology	Mycology
Cytology	Neurophysiology
Developmental Biology	Plant Anatomy
Ecology	Plant Morphology
Evolution	Plant Physiology
Genetics	Ultrastructural Studies

The following courses may not be taken for graduate credit in the M.A. program:

Any course with a 100 number
BI 210 The Biological Environment
BI 211 Landscaping
BI 212 Plant Propagation
BI 214 CPR Instructor's Course
BI 215 Drugs of Plant Origin
BI 216 The Insect World
BI 217 Man, Insects and Disease
BI 224 Introduction to Microbiology
BI 242 Plants and Man
BI 270 Biological Foundations of Normal
and Therapeutic Nutrition
BI 272 Animal Behavior
BI 311 Heredity and Human Endeavor

Master of Arts in Teaching

The Department offers a program leading to the degree of Master of Arts in Teaching, which is designed primarily for in-service teachers and others preparing to teach at the secondary level. All accepted students must enroll under the direction of their advisor in GS 501 Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue. Students enrolled in the program must meet the general requirements for the degree (including 12 hours of course work selected from the four areas of professional study in education — consult the Graduate School section of this catalogue), plus the departmental requirements (a minimum of 18 semester hours of courses in the biological sciences).

Six of the 18 hours in the biological sciences must be from the field of botany and six from the field of zoology. The remaining six hours might be used for a thesis, for directed study, or course work in any of the biological areas. In addition, a student must have taken a course in genetics at either the undergraduate or graduate level and must take at least one of the courses listed under each of the following general areas:

Morphology and Systematics:

BI 240 Plant Morphology
BI 273 Vertebrate Zoology
BI 282 Comparative Chordate Anatomy
BI 284 Invertebrate Zoology
BI 344 Biology of the Fungi
BI 422 Biological Evolution
BI 428 Microbiology
BI 542 Comparative Morphology of the Vascular Plants

Physiology:

BI 320 Biochemistry
BI 341 Plant Physiology
BI 373 Animal Physiology
BI 481 Sensory Physiology
BI 571 Neurophysiology I
BI 572 Neurophysiology II

Field and Behavioral Biology:

BI 272 Topics in Animal Behavior
BI 315 Seminar on Human Sexual Reproduction
BI 326 Marine Biology
BI 425 Ecology
BI 537 Intertidal Biology
BI 581 Mammalogy
BI 583 Comparative Ethology
BI 585 Ichthyology

Cellular Biology:

BI 200 Cell Biology
BI 324 Microscopical Technique
BI 371 Histology
BI 430 Developmental Biology
BI 433 Cytology
BI 434 Biological Electron Microscopy
BI 520 Developmental Genetics

The following courses may not be taken for graduate credit in the M.A.T. program:

Any course with a 100 number
BI 210 The Biological Environment
BI 211 Landscaping
BI 214 CPR Instructor's Course
BI 224 Introduction to Microbiology

Course Offerings*

BI 100 General Principles of Biology (3 crs.)

The biological principles at the cellular and organismal levels are discussed. The topics covered include cell structure, respiration, photosynthesis, osmosis, enzymes, DNA and protein synthesis, genetics, ecology and evolution. Two lectures and one two-hour laboratory weekly. Satisfies the GER in Physical and Biological Sciences. *Either semester*

BI 102 Introduction to Zoology (3 crs.)

This course considers the zoological aspects of biology with emphasis on human systems. Topics include the chemical basis of life, the structure and physiology of cells, tissues, organs, and organ-systems, embryonic development, heredity, evolution and ecology. Two lectures and one two-hour laboratory period weekly. Satisfies the GER in Physical and Biological Sciences. *Either semester*

BI 104 Animal Morphology (3 crs.)

A survey of the Animal Kingdom including major invertebrate phyla and the phylum Chordata. This course will include a taxonomic and evolutionary analysis of the functional morphology; systematics and basic biology of the major animal phyla. Two lectures and one two-hour laboratory period weekly. *Spring semester*

BI 110 Humans and Their Role in Nature (3 crs.)

This course examines biological principles as they apply to human biology and to the role of humans in nature. A study of different levels of organization leads to analysis of the structure and function of the major systems of the human body. Topics will include human heredity, evolution and ecology. Satisfies the GER in Physical and Biological Sciences (non-lab course). *Spring semester*

BI 112 Biology and Human Thought (3 crs.)

The evolutionary development of the brain, its organization and functions will be discussed. Major emphasis will be devoted to neuronal cell conduction and transmission and the cellular basis for movement, sensory activity, emotions, memory and brain disorders. Satisfies the GER in Physical and Biological Sciences (non-lab course). *Fall semester*

BI 113 Fundamentals of Biology (3 crs.)

The conceptual foundations of modern life science are introduced through a detailed historical study of five core subjects: cell biology, genetics, development, evolution and ecology. The current status of knowledge and methodology will be discussed. Satisfies the GER in Physical and Biological Sciences (non-lab course). *Either semester*

BI 114 Horticulture (3 crs.)

This course examines the interactions among plant structure, function and environmental factors as they relate to the growth, propagation and utilization of cultivated plants. Satisfies the GER in Physical and Biological Sciences (non-lab course). *Fall semester*

BI 115 Microbial World and You (3 crs.)

This course studies microorganisms (bacteria, algae, fungi, protozoa, and viruses) and their interactions with humans. The principles and applications of environmental, industrial and medical microbiology are discussed. Satisfies the GER in Physical and Biological Sciences (non-lab course). *Fall semester*

BI 118 Evolution (3 crs.)

The theory of evolution with its supporting evidence and mechanisms of change is presented. Fossil, genetic and biogeographic evidence from various disciplines is treated. Formerly BI 218. Satisfies the GER in Physical and Biological Sciences (non-lab course.) *Offered alternate years*

BI 171 Human Anatomy and Physiology I (4 crs.)

Principles of cellular and general physiology; cell, tissue and organ structure; structure and function of the skeletal, muscular and nervous systems. Three one-hour lectures and one two-hour laboratory period weekly. *Fall semester*

BI 172 Human Anatomy and Physiology II (4 crs.)

The structure and function of the circulatory, excretory, digestive, respiratory and endocrine systems. Intermediary metabolism and reproduction will also be discussed. Three one-hour lectures and one two-hour laboratory period weekly. (Prerequisite: BI 171 or consent of the Instructor) *Spring semester*

BI 200 Cell Biology (3 crs.)

This course considers structure and activities of the cell at the molecular level. Topics include recognition, transport, catalysis, biosynthesis and assembly of macromolecules, and cellular differentiation and development. Two lectures and one laboratory weekly. (Prerequisite: BI 100 and CH 131-132 or CH 141-142) *Spring semester*

BI 210 The Biological Environment (3 crs.)

The ecological relationship between humanity and other forms of life is discussed in biological terms. Topics dealing with humanity's past, present and future role in the ecosystem are discussed and might include: energy, biogeochemical cycles, population dynamics and waste management. Satisfies the GER in Physical and Biological Sciences (non-lab course). *Offered alternate years, Fall semester*

BI 211 Landscaping (3 crs.)

A course designed to introduce the principles behind formal, informal and naturalistic landscaping practices. Emphasis will be divided equally among three major areas, identifying-selecting, planting-maintaining and designing-arranging of plant materials in the landscape with a goal of improving the aesthetic and functional values of the landscape. Three lectures weekly. *Offered alternate years, Fall semester*

BI 212 Plant Propagation (3 crs.)

A course designed to introduce the principles and practices of propagating plants. Techniques of cuttage, grafting, budding, layering and propagation by seed will be emphasized. Three lectures weekly. *Offered once in three years*

BI 215 Drugs of Plant Origin (3 crs.)

The formation, identity, and specific effects of plant materials that influence the course of human disease, discomfort and well-being are considered. The subject matter includes the major groups of organisms as well as principle biological subfields such as ecology, evolution, taxonomy, anatomy, physiology and biochemistry. Satisfies the GER in Physical and Biological Sciences (non-lab course). *Offered once in three years*

BI 240 Plant Morphology (3 crs.)

A survey of the plant kingdom from the Monera through the angiosperms with emphasis on evolutionary adaptations associated with each group and phylogenetic relationships between the divisions as reflected in present day classification systems. Two lectures and one two-hour laboratory period weekly. (Prerequisite: BI 100 or equivalent or consent of the Instructor) *Fall semester*

*See pages 66-67 for general information regarding course offerings.



BI 241 Plant Anatomy (3 crs.)

A comparative study of the structural, functional, developmental and phylogenetic characteristics of cells, tissues, and organs in the vascular plants with emphasis on the angiosperms. Two lectures and one two-hour laboratory period weekly. *(Prerequisite: BI 100 or equivalent or consent of the Instructor)* Offered once in three years

BI 272 Animal Behavior (3 crs.)

This introduction to the study of animal behavior from the biological viewpoint covers such topics as drives and reflexes, animal communication, biological rhythms and migration. Emphasis will be placed where applicable on the relationships between animal and human behavior. Satisfies the GER in Physical and Biological Sciences (non-lab course). *Offered alternate years, Spring semester*

BI 273 Vertebrate Zoology (3 crs.)

A taxonomic and evolutionary analysis of the functional morphology, systematics, behavior and evolution of the major vertebrate classes. Principal emphasis on taxonomy, systematics and concepts of zoogeography. Two lectures and one two-hour laboratory period weekly. *(Prerequisite: BI 100 or equivalent, or consent of the Instructor)* Offered once in three years, Fall semester

BI 280 Human Physiology (3 crs.)

General physiological principles and their application to the human body. Two lectures and one two-hour laboratory period weekly. *(Prerequisite: BI 102 or consent of the Instructor)* Either semester

BI 282 Comparative Chordate Anatomy (3 crs.)

An ontogenetic and phylogenetic survey of chordate gross anatomy, supplemented by laboratory dissections of representative species. Emphasis is placed on ecomorphology and the changes in chordate structure and biology that comprise their evolution, with an analysis of the significance of these changes in light of our modern knowledge of evolution. Two lectures and one two-hour laboratory period weekly. *(Prerequisite: BI 100 or equivalent, or consent of the Instructor)* Spring semester

BI 284 Invertebrate Zoology (3 crs.)

The biology of invertebrates from a phylogenetic standpoint with emphasis on taxonomy, morphology, physiology, development, and natural history. Representatives of the principal classes of each phylum are studied. Two lectures and one two-hour laboratory period weekly. *(Prerequisite: BI 100 or equivalent, or consent of the Instructor)* Spring semester

BI 290 Introduction to Pharmacology (3 crs.)

Introduction to the basic concepts in pharmacology which are important for the understanding of the interaction between chemical agents and the human organism. Types and frequencies of adverse reactions will be reviewed. Specific classes of drugs will be reviewed. Specific classes of drugs will be examined including CNS, cardiovascular, and antimicrobial agents acting on the autonomic nervous system and hormones. Examples of the use of these basic concepts and the application of specific agents in the treatment of disease will be taken from the literature. *(Prerequisite: BI 280 or BI 171)* Offered only through the Program of Graduate and Continuing Education, 1987-88

BI 311 Heredity and Human Endeavor (3 crs.)

The principles of genetics which are important to an understanding of the hereditary mechanism in humans. Individual differences in relation to gene-environment interaction and the role of heredity in education, governance, and society. Primarily an elective for non-science majors. Three lectures weekly. *(Prerequisite: BI 100 or equivalent, or consent of the Instructor)* Spring semester

BI 312 Plant Pests and Diseases (3 crs.)

A survey of pests and diseases which attack indoor and outdoor plants. The biology of the organisms, principles involved in their growth and development, interaction with other organisms and the environment, and the application of control measures are studied. Three lectures weekly. *(Prerequisite: One course which includes the structure and function of plants, or consent of the Instructor)* Fall semester

BI 315 Seminar on Human Sexual Reproduction (3 crs.)

Sperm and egg production; fertilization; embryology of fetus; development and physiology of fetus; hormones in reproduction (sexual cycles, pregnancy and lactation); sexual behavior and artificial controls of reproduction. Three lectures weekly. *(Prerequisite: BI 100 or equivalent or consent of the Instructor)*

BI 321 Genetics (3 crs.)

Analysis of the basic principles underlying heredity and the mechanisms involved in the replication, recombination, mutation, variation and expression of genetic material in representative plant, animal and microbial systems. Two lectures and one two-hour laboratory period weekly. *(Prerequisite: BI 100; BI 104 or BI 240; CH 131-132; MA 103-104 or equivalent; or consent of the Instructor)* Fall semester

BI 323 Virology (3crs.)

This course is an introduction to the study of viruses including bacteriophages, animal and plant viruses. Viral structure and mechanisms of action are considered at the molecular level, and emphasis is placed on viral replication and host cell interactions. *(Prerequisite: BI 200, and CH 131-132 or CH 141-142)* Fall semester

BI 324 Microscopical Technique (3 crs.)

A consideration of the use of the light microscope in studying biological materials. The course includes study of different uses of the light microscope and preparation of cells and tissues for examination with the light microscope. Preparation of whole mounts, sections, and introduction to histochemistry will be included in the laboratory. One lecture and two two-hour laboratory periods weekly. *(Prerequisite: BI 100; BI 104 or BI 240; CH 131-132 or equivalent; or consent of the Instructor)* Offered alternate years, Spring semester

BI 326 Marine Biology (3 crs.)

An introduction to the marine ecosystems with emphasis on factors involved in the growth, diversity, and distribution of populations occupying the marine habitats of the Eastern Atlantic coast. Two lectures and one two-hour laboratory period weekly. *(Prerequisite: BI 100 or equivalent, or consent of the Instructor)* Offered once in three years

BI 338-339 Honors Tutorial (3 crs. each semester)

Special topics in Biology. Open to All-College and Departmental Honors students. Three hourly meetings weekly. *(Prerequisite: Consent of the Department)* BI 338 Fall semester, BI 339 Spring semester

BI 341 Plant Physiology (3 crs.)

The growth and function of plants including cellular physiology, water relations, metabolism, respiration, photosynthesis, nutrition, growth regulation, and the influence of environment. Two lectures and one two-hour laboratory period weekly. *(Prerequisite: BI 100; BI 104 or BI 240; CH 131-132 or equivalent; or consent of the Instructor)* Fall semester

BI 344 Biology of the Fungi (3 crs.)

An introduction to the morphology, taxonomy, and physiology of the fungi. Two lectures and one two-hour laboratory period weekly. (Prerequisite: BI 100; BI 104 or BI 240; CH 131-132 or equivalent; or consent of the Instructor) Offered once in three years

BI 371 Histology (3 crs.)

A study of the microscopic anatomy of mammalian tissue and organs with emphasis on human materials. The study of prepared slides in the laboratory will serve as a basis for discussion of the interdependence of structure and function in the animal body. Two lectures and one two-hour laboratory period weekly. (Prerequisite: BI 100; BI 282 or BI 284; CH 131-132 or equivalent; or consent of the Instructor) Offered alternate years, fall semester

BI 373 Animal Physiology (3 crs.)

Physiological principles concerned in irritability, contraction, circulation, gas exchange, excretion, and hormonal regulation. Two lectures and one two-hour laboratory period weekly. (Prerequisite: BI 100; CH 131-132 or equivalent; or consent of the Instructor) Spring semester

BI 375 Immunology (3 crs.)

The immune system and its components, including their structure, function, genetics and ontogeny. Three lectures weekly. (Prerequisite: BI 321; BI 172 or BI 280 or BI 371 or BI 373) Offered alternate years, Spring semester

BI 376 General Endocrinology (3 crs.)

A survey of the morphology, ultrastructure, and physiology of endocrine glands and their hormones in animals with special emphasis on humans, will be presented. The course will discuss the hormonal action of their control on the cellular and organ level. Three lectures weekly. Offered alternate years, Fall semester

BI 422 Biological Evolution (2 crs.)

The theory of evolution and the operation of evolutionary forces as related to modern taxonomy, with emphasis on such topics as mutation, variation, hybridization, polyploidy, isolation, natural selection, and population genetics. Two lectures weekly. (Prerequisite: BI 321 or consent of the Instructor) Offered alternate years, Spring semester

BI 425 Ecology (3 crs.)

The dynamics and evolution of populations, communities, and ecosystems. Students become acquainted with the communities of Southeastern Massachusetts through field studies. Two lectures and one two-hour laboratory period weekly. (Prerequisite: BI 321; BI 341 or consent of the Instructor) Fall semester

BI 428 Microbiology (3 crs.)

An introduction to the structure, function, and ecology of microorganisms with emphasis on bacteria and viruses. Two lectures and one two-hour laboratory period weekly. (Prerequisite: BI 100; BI 104 or BI 240; BI 341; CH 131-132 or equivalent; or consent of the Instructor) Spring semester

BI 430 Embryology (3 crs.)

A study of developmental processes at different levels of organization with emphasis on animal development. Topics include gametogenesis, fertilization, early embryonic development, organogenesis, differentiation, growth and regeneration. Two lectures and one two-hour laboratory period weekly. (Prerequisite: BI 100; BI 282 or BI 284; CH 131-132 or equivalent; or consent of the Instructor) Offered alternate years, Spring semester

BI 433 Cytology (3 crs.)

Cellular morphology and organization including descriptions of major intracellular processes and the functional significance of cellular structures. Two lectures and one two-hour laboratory period weekly. (Prerequisite: BI 100; BI 104 or BI 240 or equivalents; or consent of the Instructor) Fall semester

BI 434 Biological Electron Microscopy (3 crs.)

An introduction to the techniques of tissue preparation including fixation, dehydration and embedment procedures, followed by sectioning and staining, practical use of the electron microscope and interpretation of electron photomicrographs. Basic principles of tissue preparation and applications of electron microscopy will be stressed. One lecture and one three-hour laboratory period weekly. (Prerequisite: BI 433 or consent of the Instructor) Spring semester

BI 435 Problem Solving with the Computer in Biology (3 crs.)

The solution of mathematical problems in various areas of biology with the computer. Identification and analysis of problems followed by algorithm construction and preparation of effective computer programs. An introduction to significant problem solving with computer in areas such as genetics, population biology, microbiology, and physiology. Three lectures weekly. (Prerequisite: At least junior standing with 15 credits in biology courses. CS 100 or CS 101 - students will be required to write computer programs in either BASIC or Pascal) Offered once in three years

BI 472 Human Genetics (3 crs.)

The general principles of genetics as applied to humans. Emphasis will be placed on the determination of genotypes, predictions for future offspring, pedigree construction and analysis, diagnosis and treatment of genetic diseases, gene mapping, cytogenetics of normal and aberrant genomes, and population genetics. (Prerequisite: BI 321) Offered once in three years

BI 485 Honors Thesis (3 crs.)

This course is open to All-College and Departmental Honors students. One-hour weekly meetings with the thesis director will culminate in an honors thesis. With the consent of the Departmental Honors Committee and the thesis director, this course may be extended into a second semester for three additional credits depending upon the scope of the project. Whether the final version of the thesis qualifies the student to graduate with honors will be determined by the Departmental Honors Committee. Either semester

BI 498 Internship in Biology (3-15 crs.)

Internships include research, laboratory or occupational experience in industrial, allied health, educational, medical, governmental, recreational, regulatory or other organizations outside of the College. No more than six (6) credits may be used toward the biology major electives. (Prerequisite: Consent of the Department) Either semester

BI 499 Directed Study in Biology (1-3 crs.)

Open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. (Prerequisite: Consent of the Department) Either semester

Other Approved Courses:

- BI 121 Conservation and Natural Resources
- BI 213 Trees and Shrubs
- BI 214 CPR Instructor's Course
- BI 216 The Insect World
- BI 217 Man, Insects and Disease
- BI 221 Field Natural History
- BI 224 Introduction to Microbiology
- BI 242 Plants and Man

BI 270 Biological Foundations of Normal and Therapeutic Nutrition
 BI 275 Ornithology
 BI 313 Techniques of Interpretation for the Naturalist
 BI 320 Biochemistry
 BI 421 Seminar in Biology
 BI 473 General Entomology
 BI 475 Parasitology
 BI 481 Sensory Physiology

BI 502 Research (credit to be arranged)

Original research undertaken by the graduate student in his/her field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

BI 503 Directed Study (credit to be arranged)

Designed for the graduate student who desires to study selected topics in his/her field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

BI 504 Advanced Seminar in Selected Modern Biological Topics (3 crs.)

A study of significant recent work in a specific area of biological research. Students will be expected to do considerable library research, make oral presentations, and present a satisfactory written summary of their work.

BI 520 Developmental Genetics (3 crs.)

An examination of current knowledge of the genetic basis of developmental processes. Mechanisms of expression of genetic information during the early stages of development will be discussed. Differential gene function as the basis of differentiation will be considered along with genetic control mechanisms, genetic interaction at different levels and regulation of gene function. Three lectures weekly. (*Prerequisite: BI 321, CH 131-132, or consent of the Instructor*)

BI 526 Microbial Physiology (3 crs.)

An advanced study of bacteria and fungi emphasizing their nutrition, growth, death, and chemical activities. Laboratory work will demonstrate some research methods of microbial physiology and illustrate some representative physiological systems. Two lectures and one two-hour laboratory period weekly. (*Prerequisite: BI 320, BI 321, BI 428, CH 344 or consent of the Instructor*)

BI 537 Intertidal Biology (3 crs.)

A study of the dynamics of intertidal ecosystems with emphasis on factors involved in the similarity and diversity of occurrence and distribution of intertidal plants and animals. Two lectures and one two-hour laboratory period weekly. (*Prerequisite: A course in Ecology or Marine Biology or consent of the Instructor*)

BI 542 Comparative Morphology of the Vascular Plants (3 crs.)

The vascular plants from the psilopsids to the angiosperms using classical and contemporary data for the evaluation of phylogenetic and phenetic relationships. Two lectures and one two-hour laboratory period weekly. (*Prerequisite: BI 240, BI 422 or consent of the Instructor*)

BI 544 Experimental Morphology of Angiosperms (3 crs.)

The growth and development of flowering plants as revealed by experimental modification of their environment, including an investigation of the basic molecular processes involved in genetic control of plant development and their interaction with hormonal mechanisms and environmental influences. Two lectures and one two-hour laboratory period weekly. (*Prerequisite: BI 240, BI 321, BI 341, one semester of college level mathematics, or consent of the Instructor*)

BI 546 Taxonomy of Spermatophytes (3 crs.)

A survey of the seed plants; their structures, taxonomy, phylogeny, and ecological importance. Two lectures and one two-hour laboratory period weekly. (*Prerequisite: BI 221, BI 240, or consent of the Instructor*)

BI 550 Modern Developments in Biology (3 crs.)

A course designed to update and enhance the background of public school teachers. Topics covered present an integrated approach to the understanding of the meaning and impact of current research discoveries for contemporary society. Topics covered include: cellular aspects of the genetic mechanism, DNA and protein synthesis, recombinant DNA technology, human chromosome structure and mapping, genetic control of development, molecular recognition in immunology and hormone action, molecular genetics of immunoglobulin, genetics and evolution of circadian and seasonal cycles, population genetics in speciation, and ecosystem modeling. Lectures, demonstrations, and laboratories. (*Prerequisite: Science teaching experience at the pre-baccalaureate level and consent of Instructor*)

BI 571 Neurophysiology I (3 crs.)

The physiology of the peripheral nervous systems, receptors, and muscles, considered in both vertebrates and invertebrates. Two lectures and one two-hour laboratory period weekly. (*Prerequisite: BI 373 or consent of the Instructor*)

BI 572 Neurophysiology II (3 crs.)

The central nervous system of invertebrates and vertebrates including anatomical, physiological, and biochemical aspects. When appropriate, some behavioral studies will be considered. Two lectures and one two-hour laboratory period weekly. (*Prerequisite: BI 373 or consent of the Instructor -- BI 571 need not precede BI 572*)

BI 576 Advanced Entomology (3 crs.)

The biology of insects including the immature stages. Topics include: morphology, physiology, development, taxonomy and ecology. Two lectures and one two-hour laboratory period weekly. (*Prerequisite: BI 473 or consent of the Instructor*)

BI 581 Mammalogy (3 crs.)

The classification, distribution, life histories, techniques of collection and preservation, ecology, and ethology of mammals. Two lectures and one two-hour laboratory period weekly. (*Prerequisite: BI 282 or BI 273 or consent of the Instructor*)

BI 583 Comparative Ethology (3 crs.)

Behavioral adaptations of animals to their environments and way of life. Introduction of the objective analysis of behavior patterns and use of patterns in clarifying evolutionary relationships. Two lectures and one two-hour laboratory period weekly. (*Prerequisite: BI 282, BI 373 or BI 280, or consent of the Instructor*)

BI 585 Ichthyology (3 crs.)

Classification, distribution, economic value, identification, life histories, management, morphology, ethology, ecology, and preservation of fishes. Two lectures and one two-hour laboratory period weekly. (*Prerequisite: BI 282 or BI 273 or consent of the Instructor*)

Department of Chemical Sciences*

Chairperson: Professor Henry Daley, Jr.
Professors: Wilmon Chipman, Vahe Marganian
Associate Professor: Margaret Souza
Assistant Professor: Joseph Pagano

The Department of Chemical Sciences offers programs leading to the degrees of Bachelor of Arts in Chemistry, Bachelor of Science in Chemistry, Master of Arts in Chemistry and Master of Arts in Teaching Chemistry. All of these programs are designed to provide the skills and knowledge necessary to prepare students for successful careers in the chemical industry, chemical research, teaching, oceanography and environmental science, or for further study in graduate degree programs.

Undergraduate Programs

Bachelor of Arts/ Bachelor of Science

The department offers two major programs in Chemistry, a concentration in Biochemistry and also a Chemistry-Geology major jointly with the Department of Earth Sciences. The first major offered by the department, the major in Professional Chemistry, is designed for students who plan to go on to graduate work in chemistry or to do research in the chemical industry. The courses offered in this program meet the requirements of the American Chemical Society* for an approved major. Satisfactory performance in this program (B average) will give the student the professional preparation required for an assistantship or fellowship in graduate school. The second major, the major in Chemistry, is designed for students who wish to prepare for such fields as medicine, dentistry, the chemical industry, secondary school teaching, chemical sales work, pharmacy, oceanography, environmental sciences, sanitation chemistry,

or veterinary science. Only a minimum number of chemistry courses is required so that a program suited to an individual's interests may be worked out with the student's faculty advisor.

The department participates in multidisciplinary programs for students preparing for careers in medicine, dentistry, or oceanography. Additional information on these programs may be found in the catalogue under *Undergraduate Multidisciplinary and Pre-Professional Programs*.

***The Department of Chemical Sciences is on the list of approved schools of the American Chemical Society.**

Professional Chemistry Major

CH 100 Computer Science in Chemistry

or

CS 100 Introduction to Computer Science

CH 141-142 Chemical Principles I-II

or

CH 131-132 General Chemistry I-II

CH 241 Intermediate Quantitative Analysis

CH 242 Intermediate Inorganic Chemistry

CH 343-344 Organic Chemistry I-II

CH 381-382 Physical Chemistry I-II

CH 444 Advanced Inorganic Chemistry

CH 450 Instrumental Analysis

MA 101-102 Calculus I-II

MA 201 Calculus with Analytic Geometry III

MA 316 Differential Equations

PH 243-244 General Physics I-II

Students must also elect two advanced courses, at least one of which should be in chemistry at or above the 390 level and have CH 344 Organic Chemistry II and CH 382 Physical Chemistry II as prerequisites; making sure that their program contains 500 hours of laboratory instruction. (Elective courses must be approved by the advisor.)

Biochemistry Concentration

CH 100 Computer Science in Chemistry

or

CS 100 Introduction to Computer Science

CH 141-142 Chemical Principles I-II

or

CH 131-132 General Chemistry I-II

CH 343-344 Organic Chemistry I-II

CH 381-382 Physical Chemistry I-II

One of the following three courses:

CH 241 Inorganic Quantitative Analysis

CH 250 Instrumentation

CH 450 Instrumental Analysis

CH 461-462 Biochemistry I-II

CH 466 Advanced Biochemistry Laboratory

BI 100 General Principles of Biology

BI 200 Cell Biology

BI 321 Genetics

BI 428 Microbiology

MA 101-102 Calculus I-II

or

MA 103-104 Elements of Calculus I-II

PH 243-244 General Physics I-II

or

PH 181-182 Elements of Physics I-II

Chemistry Major

CH 100 Computer Science in Chemistry

or

CS 100 Introduction to Computer Science

CH 141-142 Chemical Principles I-II

or

CH 131-132 General Chemistry I-II

CH 242 Intermediate Inorganic Chemistry

CH 343-344 Organic Chemistry I-II

CH 381-382 Physical Chemistry I-II

MA 101-102 Calculus I-II

or

MA 103-104 Elements of Calculus I-II

with the permission of the advisor

PH 243-244 General Physics I-II

or

PH 181-182 Elements of Physics I-II

with the permission of the advisor

Chemistry/Geology Major

A Major in Chemistry-Geology is offered jointly with the Department of Earth Sciences. (See the catalogue section entitled *Undergraduate Multidisciplinary and Pre-Professional Programs* for detailed information).

Minor in High School Education

Students minoring in education must refer to the Department of High School, Middle School, and Adult Education for specific teacher certification and program requirements.

Chemistry Minor

18 credits in chemistry.

Only one of the following sequences or its equivalent may be taken for credit:

(a) CH 125-126 Introductory Chemistry for the Life Sciences I-II

(b) CH 131-132 General Chemistry I-II

or

(c) CH 141-142 Chemical Principles I-II

Students may not take CH 300 Organic Chemistry for the Life Sciences and CH 343-344 Organic Chemistry I-II for credit. CH 111 The Art of Chemical Inquiry may not be used to fulfill minor requirements in chemistry.

Biochemistry Minor

18-20 credits in chemistry.

The following sequences of courses must be taken:

CH 343-344 Organic Chemistry I-II

CH 461-462 General Biochemistry I-II

Physical Science Minor

18 credits in chemistry and physics.

Additional Comments on Requirements:

The normal freshman program for a student interested in either chemistry major consists of CH 100 Computer Science in Chemistry (or CS 100 Introduction to Computer Science), CH 141-142 Inorganic Chemical Principles I-II, MA 101-102 Calculus I-II, and six credits toward the general education requirements. A student need not decide between the two chemistry majors until the second semester of his sophomore year. Students completing the Professional Chemistry major will meet the requirements for certification of the American Chemical Society.

Because of the sequential nature of the courses required of a chemistry major, a student considering majoring in chemistry must take MA 101-102 Calculus I-II (or MA 103-104 Elements of Calculus I-II with the permission of the advisor) and CH 141-142 Chemical Principles I-II in the freshman year or plan to attend summer school. For this reason any student considering the possibility of majoring in chemistry should consult a member of the department before registering for freshman courses.

Graduate Programs

Master of Arts

The Department of Chemical Sciences offers a program leading to the degree of Master of Arts in Chemistry, which is designed to prepare qualified students for research, further graduate study, and teaching. An undergraduate major in chemistry, or its equivalent, is normally required for admission to this program. Applicants must have satisfactorily completed the following: one semester of differential calculus, one semester of integral calculus, two semesters of calculus based physics, two semesters of general chemistry with laboratory, one semester of analytical chemistry, two semesters of organic chemistry and two semesters of physical chemistry. Other laboratory courses in chemistry are desirable.

Applicants must have an interview with the Chairman of the Department.

All accepted students must enroll under the direction of their advisor in GS 501 Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue. In addition to meeting general degree requirements, the student must complete at least 30 graduate credits in chemistry which shall include at least six semester hours of thesis credit (CH 502). All courses must be approved by the advisor.

Each graduate student must satisfactorily complete the following core curriculum or present evidence that it has been successfully completed.

CH 444 Advanced Inorganic Chemistry
CH 450 Instrumental Analysis
CH 591 Advanced Organic Chemistry I
CH 592 Advanced Organic Chemistry II
CH 597 Advanced Physical Chemistry I
CH 598 Advanced Physical Chemistry II

A reading knowledge of German and Russian (or, if approved, a demonstrated competence with another appropriate research tool, such as computer programming) is required for the degree.

The departmental offerings listed below include the following courses which may not be used to meet M.A. degree requirements:

Any Chemistry course numbered below 400
CH 499 Directed Study in Chemistry
CH 585 Atomic and Molecular Structure

Master of Arts in Teaching

The Department of Chemical Sciences offers programs leading to the degree of Master of Arts in Teaching with concentrations in chemistry and physical science. These programs are designed primarily for teachers of chemistry and physical science. All accepted students must enroll under the direction of their advisor in GS 501 Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue. Degree requirements include a minimum of 12 appropriate graduate credits in designated areas of professional study (consult M.A.T. degree requirements in the Graduate School section of this catalogue), and a minimum of 18 appropriate graduate credits in chemistry (approved by the program advisor on the basis of the background, interests, and needs of the student).

The departmental offerings listed below include the following courses which may not be taken for graduate credit:

All courses at the 100 level

CH 210 Chemistry and Society

CH 390 Research Problems in Chemistry

CH 499 Directed Study in Chemistry



Course Offerings*

CH 100 Computer Science in Chemistry (2 or 3 crs.)

Introduction to computer programming as used in chemistry. Particular emphasis will be on applications of BASIC for statistical studies. A special project will be assigned to those electing this course for three credits. *Spring semester*

CH 102 Chemistry in Everyday Life (3 crs.)

A selection of topics from the multitude of chemical and nuclear reactions encountered in the everyday life of the modern person will be presented through lectures and demonstrations. Topics such as the following may be included: evaluation of energy alternatives, radioactive isotopes in diagnosis and treatment of disease, risk-to-benefit evaluation of food additives and environmental impact of chemical waste disposal. Formerly CH 202. Satisfies the GER in Physical and Biological Sciences (non-lab course). *Either semester*

CH 111 The Art of Chemical Inquiry (3 crs.)

The underlying principles governing the interactions of molecules, whether simple or complex, will be developed and applied to the investigation of phenomena such as the following: air and water pollution, nuclear power generation, fires and their control, crystal formation and the use of food additives. Two hours lecture and two hours lab weekly. Students who have received credit for CH 120 may not receive credit for CH 111. Satisfies the GER in Physical and Biological Sciences. *Either semester*

CH 131-132 General Chemistry I-II (3 crs. for each semester)

The elements and their compounds will be studied with emphasis on structure and its relationship properties. Two hours lecture and two hours lab weekly. CH 131 is prerequisite to CH 132. CH 131 only satisfies GER in Physical and Biological Sciences. *CH 131 fall semester, CH 132 spring semester*

CH 141-142 Chemical Principles I-II (4 crs. for each semester)

Theoretical inorganic chemistry will be studied with emphasis on mass-energy relationships in terms of structure and physical laws. Laboratory work emphasizes quantitative techniques. Three hours lecture and four hours lab weekly. CH 141 is prerequisite to CH 142. CH 141 only satisfies GER in Physical and Biological Sciences. *CH 141 fall semester, CH 142 spring semester*

CH 241 Inorganic Quantitative Analysis (3 crs.)

The classical and modern methods for the volumetric and gravimetric determination of elements and groups. Two lecture periods and one four-hour laboratory period weekly. (Prerequisite: CH 132 or CH 142) *Spring semester*

CH 242 Intermediate Inorganic Chemistry (3 crs.)

The descriptive chemistry, as well as synthesis and reactions, of nontransitional elements and their compounds are studied systematically. Correlations of structure and properties are explained on the basis of modern theories. (Prerequisite: CH 132 or CH 142) *Fall semester*

CH 250 Instrumentation (3 crs.)

The physical chemistry basic to modern analytical instrumentation will be discussed as the basis for the study of instrumental analysis. Two hours of lecture and one two-hour laboratory period weekly. (Prerequisite: CH 132 or permission of the Instructor) *Offered once in three years, spring semester*

CH/PH 260 Microprocessors - Microcomputer Technology (4 crs.)

A study of the electrical families, components and processes used to build the components of microprocessors and microcomputers. An

examination of timing cycles for different microprocessors with limitations on the digital devices used and the various means in which these components can be assembled in the construction of the microcomputer. Comparison of the various microcomputers available. (Prerequisite: A college level course in PH or permission of the Instructor) *Offered alternate years, fall semester*

CH 300 Organic Chemistry for the Life Sciences (4 crs.)

The fundamentals of organic chemistry-structure, synthesis and mechanism-with applications to biological systems. Designed for students in the life sciences, e.g. nursing, medical technology, physical therapy and nutrition. Not recommended for students intending to pursue graduate study in microbiology, physiology or medicine. This course is not open to chemistry majors. Three lectures and one three-hour laboratory period weekly. (Prerequisite: CH 132 or CH 126) *Offered once in three years, fall semester*

CH 338-339 Honors Tutorial (3 crs. each semester)

Special topics in Chemistry. Open to All-College and Departmental Honors students. Three hourly meetings weekly. (Prerequisite: Consent of the Department) *CH 338 fall semester, CH 339 spring semester*

CH 343-344 Organic Chemistry I-II (4 crs. for each semester)

A survey of the chemistry and organic compounds organized in terms of structure, mechanism of organic reactions, and synthesis. CH 343 is a prerequisite to CH 344. Three lecture periods and one four-hour laboratory period weekly. (The same course may be taken without laboratory under CH 341, 342) (Prerequisite: CH 132 or CH 142)

CH 350 Introduction to Laboratory Automation (2 crs.)

The use of microcomputers for data acquisition and analysis. A study of transistors, amplifiers, op. amps., differential amps, power supplies, regulators and filters as used in laboratory instruments. The interfacing of these instruments, especially using the IEEE-GPIB bus, to microcomputers to receive and analyze data will be covered. Projects will be assigned in which the student works in the laboratory gathering data directly on a computer. One hour of lecture and two hours of laboratory weekly. (Prerequisite: CH 100 or a knowledge of basic programming) *Offered once in three years, spring semester. Formerly CH 396*

CH 381-382 Physical Chemistry I-II (4 crs. for each semester)

The laws governing the physical and chemical behavior of compounds. Three lecture periods and one four-hour laboratory period weekly. (Prerequisite: CH 132 or CH 142; MA 102) *CH 381 fall semester, CH 382 spring semester*

CH 390 Research Problems in Chemistry (credits to be arranged)

Special projects for advanced students desiring individual instruction in the methods of chemical research. Hours arranged. (Prerequisite: CH 344, CH 382 and consent of the Department) *Either semester*

CH 392 Laboratory Techniques (3 crs.)

Special techniques used in the research laboratory, such as glass-blowing, vacuum line technique, vacuum distillation, dry-box operations and advanced synthetic methods. Hours arranged. (Prerequisite: CH 344, CH 382) *Offered alternate years, fall semester*

CH 440 Advanced Organic Chemistry (3 crs.)

Selected topics in advanced organic chemistry, such as physical organic chemistry, alicyclic and heterocyclic chemistry, natural products, and advanced synthetic methods. Hours arranged. (Prerequisite: CH 344, CH 382 or consent of the Instructor) *Offered once in three years, spring semester*

*See pages 66-67 for general information regarding course offerings.

CH 442 Qualitative Organic Analysis (3 crs.)

The reactions of organic compounds with emphasis on those of importance for classification and identification and the elucidation of structure by spectroscopic analysis. Laboratory work involves the identification of both simple compounds and mixtures. One lecture period and one six-hour laboratory period weekly. (*Prerequisite: CH 344, CH 382 or consent of the Instructor*) Spring semester

CH 444 Advanced Inorganic Chemistry (3 crs.)

The topics of group theory, stereochemistry, ligand field theory, molecular orbital theory, synthesis and kinetics of reactions as applied to transition metal elements will be treated in detail. CH 382 may be taken concurrently. Hours arranged. (*Prerequisite: CH 382, CH 344*) Spring semester

CH 450 Instrumental Analysis (3 crs.)

Theory and practical application of instrumental methods as applied to chemical analysis; including pH measurements, electro-deposition, potentiometry, crystallography, mass spectrometry and spectroscopy. CH 382 may be taken concurrently. Two lecture periods and one four-hour laboratory period weekly. (*Prerequisite: CH 382*) Fall semester

CH 461 General Biochemistry I (4 crs.)

A survey of the chemical components of living matter and the major processes of cellular metabolism. Three lecture periods and one three hour laboratory period weekly. (*Prerequisite: CH 344 or consent of the Instructor*) Fall semester

CH 462 General Biochemistry II (3 crs.)

A survey of the chemical components of living matter and the major processes of cellular metabolism. Three lecture periods weekly. The laboratory portion may be taken independent of the lecture under CH 466, Advanced Biochemistry Laboratory. (*Prerequisite: CH 461*) Spring semester

CH 466 Advanced Biochemistry Laboratory (2 crs.)

A study of special laboratory techniques used in biochemical research, such as chromatography, enzymology, radiochemical techniques, electrophoresis, and metabolic pathways. An individual project will complete the laboratory. One hour of laboratory discussion and three hours of laboratory per week. (*Prerequisite: CH 461*) Spring semester

CH 485 Honors Thesis (3 crs.)

This course is open to All-College and Departmental Honors students. One-hour weekly meetings with the thesis director will culminate in an honors thesis. With the consent of the Departmental Honors Committee and the thesis director, this course may be extended into a second semester for three additional credits depending upon the scope of the project. Whether the final version of the thesis qualifies the student to graduate with honors will be determined by the Departmental Honors Committee. *Either semester*

CH 498 Internship in Chemical Sciences (3-15 crs.)

Laboratory experience in industrial or government laboratories, regulating agencies or academic laboratories at other institutions. (*Prerequisite: Consent of the Department*) *Either semester*

CH 499 Directed Study in Chemistry (1-3 crs.)

Open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. (*Prerequisite: Consent of the Department*) *Either semester*

Other Approved Courses:

CH 125-126 Introductory Chemistry for the Life Sciences I-II
CH 210 Chemistry and Society
CH 252 Recent Developments in Inorganic Chemistry
CH 270 Introduction to Toxicology

CH 280 Physical Chemistry for the Life Sciences

CH 290 Environmental Chemistry

CH 372 Marine Chemistry

CH 389 Introduction to the Chemical Literature

CH 502 Research (credit to be arranged)

Original research undertaken by the graduate student in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

CH 503 Directed Study (credit to be arranged)

Designed for the graduate student who desires to study selected topics in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

CH 512 Microcomputers as Laboratory Instruments (4 crs.)

An introduction to the use of microcomputers in the laboratory in the physical sciences. This course is designed for practicing science teachers with no background in computer science. Topics to be considered will include the following: survey of microcomputer electronics; the organization of microcomputer; survey of available microcomputers, microcomputer printers and disc drives; available microcomputer languages; microcomputer operating systems; available microcomputer laboratory software in the physical sciences; laboratory data acquisition; microcomputer interfacing; and the use of simple microcomputer interfaces in the science laboratory. (*Prerequisite: Science teaching experience and a one-year introductory course in a physical science or consent of the Instructor*)

CH 530 Computer Assisted Instruction Design in the Physical Sciences (4 crs.)

The design and implementation of CAI software in the physical sciences. The use of microcomputers to design, write, test, modify and debug a software package involving interactive microcomputer graphics. CAI software produced will be tested in science classes. (*May be taken for credit more than once up to a maximum of 16 credits.*)

CH 550 Chemistry and the Environment (3 crs.)

A study of the chemicals in the environment responsible for air, water, and soil pollution. Emphasis will be on simple techniques that can be used to detect these various types of chemicals. Laboratory work will include field trips to collect samples and analysis of samples.

CH 561 Recombinant DNA Biotechnology (3 crs.)

An introduction to the structure of DNA and to the basic principles of gene manipulation, recombinant DNA technology and genetic engineering, including medical and industrial applications. (*Prerequisite: CH 343-344, BI 200, or permission of the Instructor*)

CH 562 Enzymology (3 crs.)

An introduction to the basic principles of enzymology. Topics to be covered will include the structure of enzymes, experimental techniques for purification and structure determination, enzyme kinetics, enzyme mechanism and the regulation of enzymatic reactions. (*Prerequisite: CH 343-344*)

CH 582 Biochemistry — Topics (3 crs.)

An in-depth examination of one area in biochemistry. Included will be a discussion of: laboratory techniques used in separation and purification, chemical structures and the interactions and functions of the biomolecules appropriate to the area of study. A critique of original literature will also be included. (*Prerequisite: CH 462 or permission of the Instructor*)

CH 585 Atomic and Molecular Structure (3 crs.)

A modern approach to atomic and molecular structure will be developed and applied to selected cases from inorganic and organic chemistry. Topics to be covered will include the following: atomic structure, the molecular orbital approach to molecular structure,

antibonding orbitals, introductory ligand field theory, geometrical and optical isomerism, conformational analysis, correlation of structure and reactivity, and the conservation of orbital symmetry. (*Prerequisite: Permission of the Instructor*)

CH 591 Advanced Organic Chemistry I, Structure (3 crs.)

Instrumental techniques of organic structure determination such as infra-red, ultraviolet and proton magnetic resonance spectroscopy and methods of separation and identification. Classic examples of modern structure proofs will be considered in detail. Students will conduct a literature search on the structure of an organic molecule and present a short seminar on this structure proof. Practical experience with IR, UV, NMR and gas chromatography of the structure of an unknown organic molecule. (*Prerequisite: CH 344*)

CH 592 Advanced Organic Chemistry II, Mechanism and Synthesis (3 crs.)

A one-semester course in advanced organic chemistry designed for participants who have some background in elementary organic chemistry. Topics to be considered will include recent developments in the mechanism of organic reactions and organic synthesis. Special topics may include valence tautomerism, biogenetic synthesis, photochemistry, cycloaddition reactions and the Woodward-Hoffman rules for the conservation of orbital symmetry. (*Prerequisite: CH 344 and 591, or permission of the Instructor*)

CH 597 Advanced Physical Chemistry I, Chemical Thermodynamics & Statistical Thermodynamics (3 crs.)

The zeroeth, first and second laws of thermodynamics, entropy and free energy functions, probability and the thermodynamic functions from a statistical consideration, the participation function. (*Prerequisite: CH 382*)

CH 598 Advanced Physical Chemistry II, Atomic & Molecular Structure and Kinetics (3 crs.)

An introduction to quantum chemistry, rotational and vibrational levels, first, second and third order reactions, the Arrhenius Equation and energy of activation, consecutive reactions, collision and transition state theories. (*Prerequisite: CH 382*)



Counseling Programs

The Counseling Program Committee

Program Coordinator: Dean Martha Jones

Professor: Vincent Worden

Associate Professors: Henry Fanning, Leo McGuirk

Staff: Paul Gaines, James Plotner, Richard Veno

The Master of Education in Counseling Degree Program (M.Ed.), the Certificate of Advanced Graduate Study in Education with an emphasis in Counseling Program (CAGS), and the non-degree Post Baccalaureate Certification Program have been designed to provide students with advanced training and to prepare graduates for employment in a variety of settings including community mental health programs, higher education student affairs administration, and as school guidance counselors at the elementary and secondary levels. For specific information regarding the CAGS and Post Baccalaureate Programs please consult the separate sections in this catalogue identified through the index.

School Guidance Counselor Certification

Requirements leading to certification as a school guidance counselor at the nursery through ninth grade level (N-9) or the fifth through twelfth grade level (5-12) are outlined below in the Master's Degree Program description. Certification may also be attained through the CAGS Program or through the Post Baccalaureate Certification Program provided the stated competencies and specific program requirements approved by the Massachusetts State Department of Education are met by the candidate. Certification through the approved program with endorsement by the College will result in interstate reciprocity with signatory states as specified under the Interstate Certification Compact. To discuss the various certification program options please consult with the program coordinator.

Candidates seeking certification must provide documentation that at least three field experiences were completed in school settings at the appropriate level for certification (i.e. N-9 or 5-12).

Certification regulations require that candidates complete a full practicum or a half practicum and an internship. However, candidates with a classroom teaching certificate and one year of employment in the role covered by that certificate may meet this requirement by completing a half practicum or an internship. While a teaching certificate is not required for admission into the program or for certification, candidates seeking school positions are urged to consider obtaining appropriate teaching credentials. Information may be obtained from the Professional Education Office.

Master of Education in Counseling

The Committee subscribes to the general policies of admission as outlined by the Graduate School. Candidates should be able to demonstrate through paid or non-paid experience an aptitude for counseling. In the case of certain applicants, a personal interview may be required.

All accepted students must enroll under the direction of their advisor in GS 501 Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue. A minimum of thirty-six approved graduate credits is required in this degree program. Full-time students who commence their study during the spring or summer semesters should be able to complete requirements within one full academic year.

Students must satisfactorily complete the following curriculum. Program modifications may be made only with the approval of the advisor. In addition, students seeking certification must meet state and college guidelines for the waiver of any program requirement.

1. Research Methods and Findings: GC 500 Research and Evaluation - The research topic selected must relate to the degree program, or additional research-based study through GC 502 Research or GC 503 Directed Study will be required. Total: 3 credits
2. Humanistic and Behavioral Studies: GC 430 The Guidance Function in School, Agency and Community Settings, ED 520 Psychological Foundations of Education. Total: 6 credits.
3. Departmental requirements:
GC 530 Counseling Theory and Practice
or
GC 537 The Counseling Process
GC 533 Psychological Measurement
GC 535 Applied Counseling: Adolescent-Adult
or
GC 536 Applied Counseling: Pre-Adolescent
GC 538 Theory and Process of Group Interaction
GC 450 Career Counseling Strategies
or
GC 539 Career Information and Placement
Practicum or Internship
Total: 21 credits.
4. Program Electives: Courses appropriate to the degree program and the personal/career goals of the individual student. Degree candidates are urged with the approval of their advisor to consider the wide range of complementary courses offered by other departments. Total: 6 or more credits.

Prospective candidates who have not been formally accepted into the program are urged to confine their selection of courses to curriculum areas other than program electives.

Specific assistance may be obtained from the Program Coordinator.

Field experiences are required of all students and must be completed prior to enrolling in the practicum or internship. Field experience sites should be selected carefully and in line with the student's career goals. The following courses include field experience components:

GC 430 The Guidance Function in School, Agency and Community Settings
GC 450 Career Counseling Strategies (5-12)
GC 533 Psychological Measurement
GC 535 Applied Counseling: Adolescent-Adult
GC 536 Applied Counseling: Pre-adolescent
GC 539 Career Information and Placement

Comprehensive examinations are administered in November and April. The examination, which requires a solid understanding of and a high level of competency in the areas emphasized by the Counseling Program, may not ordinarily be taken prior to the last term of course work. Previous examinations are on reserve at the Main Desk at the Maxwell Library.

Course Offerings*

GC 430 The Guidance Function in School, Agency and Community Settings (3 crs.)

Designed to acquaint the pre-professional counselor with the various aspects of the total guidance program which result in a continuous and meaningful sequence of services to clients, students, professional staff, and the community. Philosophical and psychological issues will be addressed as well as current practices. Pre-practica field component included.

GC 450 Career Counseling Strategies (3 crs.)

Designed to give the counseling professional an intensive, hands-on experience in the techniques and strategies of career counseling. Provides exposure to the major current theories of career life planning and to a range of techniques to be used with clients. Applicable to school (5-12 level) and agency counselors and to persons currently undergoing career change. Pre-practica field component included.

GC 500 Research and Evaluation (3 crs.)

The completion of a research paper is the main objective of this course, which is designed to serve the beginning graduate student. To that end, the course will stress the nature of, and criteria for, conducting and evaluating research. The necessary library techniques and resources for selecting and delimiting problems, appraisal of related research literature, as well as documentation, organization and format of a research study will be reviewed in depth. Concepts in descriptive statistics will also be reviewed. *(Prerequisite: EE 420, a statistics course, or permission of the Instructor)*

GC 502 Research (3-6 crs.)

Original research undertaken by the graduate student. For details, consult the Graduate School section of this catalogue for information on Independent Study.

GC 503 Directed Study (1-6 crs.)

Designed for the graduate student who desires to study selected topics in the counseling field or engage in field work. For details, consult the Graduate School section of this catalogue for information on Independent Study. *(Prerequisite: Completion of 15 approved graduate credits and acceptance in the Counseling Program)*

GC 521 Survey and Strategies of Childhood Assessment Ages 3-8 (3 crs.)

This course will serve to introduce students to a variety of psychometric instruments available for use during the early childhood years. *(Prerequisite: PY 100 and one of the following: EE 420 or GC 533)*

GC 522 Measurement of Intelligence: Stanford-Binet (3 crs.)

Training in the administration, scoring and interpretation of the Stanford-Binet Intelligence Scale. A test kit is necessary. *(Prerequisite: PY 100 and one of the following: EE 420, a statistics course, or GC 533)*

GC 524 Measurement of Intelligence: WAIS-R, WISC-R, and WPPSI (3 crs.)

Training in the administration, scoring and interpretation of the forms of the Wechsler Intelligence Scale. A test kit is necessary. *(Prerequisite: PY 100 and one of the following: EE 420, a statistics course, or GC 533)*

GC 525 Measurement of Intelligence: Stanford-Binet and Wechsler Scales (3 crs.)

Training in the administration, scoring and interpretation of the Stanford-Binet and Wechsler scales. Access to test kits is necessary. *(Prerequisite: PY 100 and one of the following: EE 420, a statistics course, or GC 533)*

GC 526 Projective Assessment Techniques I (3 crs.)

A basic training course in the administration, scoring and interpretation of selected projective instruments including the Bender Gestalt, TAT, CAT, HTP and MMPI. Projective aspects of the Wechsler and Stanford-Binet Scales will be emphasized. *(Prerequisite: GC 522, GC 524 or GC 525)*

GC 527 Projective Assessment Techniques II (3 crs.)

An in-depth experience utilizing a case-study approach in the implementation of Battery Testing. Advanced techniques utilizing the Bender Gestalt and TAT as well as an introduction to the Rorschach will be included. *(Prerequisite: GC 526 or permission of the Instructor)*

GC 530 Counseling Theory and Practice (3 crs.)

An analysis of the major theories of counseling and the application of techniques utilized in the counseling process will be emphasized. Discussion of situational problems and role playing will allow for the practice of each model as applied in counseling settings.

GC 531 Organization and Administration of Guidance Programs (3 crs.)

Administrative skills required in needs assessment, program design and evaluation of effectiveness will be emphasized. Current laws and regulations will be reviewed and sources of funding explained. Students will develop research and communication approaches to respond appropriately to social, economic and political demands within a school or agency setting. *(Prerequisite: GC 430)*

GC 533 Psychological Measurement (3 crs.)

Introduction to the basic principles of group psychological testing and the most commonly used instruments for assessing intelligence, achievement, aptitude, interest, and personality. Emphasis will be placed on test score interpretation within a counseling context. Pre-practica field component included. *(Prerequisite: EE 420 or a course in statistics and GC 430)*

GC 535 Applied Counseling: Adolescent-Adult (3 crs.)

Developmental issues, diagnostic techniques and individual and group counseling strategies appropriate for use with adolescents and/or adults will be addressed. Report writing, referral and consultation procedures and current trends will be studied. Pre-practica (5-12) field component included. *(Prerequisite: GC 530 and GC 538)*

GC 536 Applied Counseling: Pre-Adolescent (3 crs.)

Developmental issues, diagnostic techniques and individual and group counseling strategies appropriate for use with pre-adolescents will be addressed. Report writing, referral and consultation procedures and current trends will be studied. Pre-practica (N-9) field component included. *(Prerequisite: GC 530 and GC 538)*

GC 537 The Counseling Process (3 crs.)

Course will focus on the relationship, re-orientation and accomplishment phases of the counseling process. Primary readings will be utilized. Interventions and techniques to promote counseling effectiveness will be discussed and practiced. *(Prerequisite: GC 530 or permission of the Instructor)*

GC 538 Theory and Process of Group Interaction (3 crs.)

An examination of the theories and processes of group dynamics and their relationship to counseling philosophy. Special emphasis will be placed on the synthesis of leadership, membership, and purpose, as well as the evaluation of the appropriateness of various group counseling applications. *(Prerequisite: GC 530)*

*See pages 66-67 for general information regarding course offerings.

GC 539 Career Information and Placement (3 crs.)

Emphasis is placed on the role of the counselor in the career decision-making process. Topics include a survey of selected theories of vocational choice and development and review of the theoretical concepts, issues and trends in career education. The use of career and educational information is considered. Pre-practica field experience included. (Prerequisite: GC 430)

GC 540 Advanced Counseling Theory and Practice (3 crs.)

An intensive application of counseling practice in a personalized rather than theoretical manner. Theory will be reviewed from the perspective of the student's personal counseling style. An atmosphere of constructive criticism will be developed. Maximum use of audio and video tapes will be made. (Prerequisite: GC 530)

GC 541 The Counselor's Role in the Implementation of Federal/State Legislation (3 crs.)

Course is designed to provide the student with information outlining federal and state laws that directly affect the professional counselor. Legislation dealing with Special Education, Family Rights and Privacy, Child Abuse and Sex Discrimination will be among the topics studied. This course will focus on legislation from the view of the ethical issues involved as well as the demands and constraints placed upon the counselor. Currently proposed legislation and legal trends will be identified. (Prerequisite: GC 430)

GC 542 The Facilitation of Group Experience (3 crs.)

An introduction to the concepts and practices of facilitating various types of group experiences. A number of leadership methods will be presented, and each participant will experience a leadership role under controlled circumstances. (Prerequisite: GC 538 or permission of the Instructor)

GC 543 Theories of Career Development (3 crs.)

The career development process, the history of its study, its characteristics at each life stage, and the current issues in its facilitation for women, men, couples, and minority persons will constitute the content of this course. Practical applications will include an examination of activities and materials designed to bring about greater awareness of needs, values, interests and abilities related to career decision making. (Prerequisite: GC 450, GC 539 or permission of the Instructor)

GC 544 Introduction to Reality Therapy (3 crs.)

Course is designed to bring about an awareness and an understanding of the philosophy and basic concepts of Reality Therapy. Activities will enhance opportunity to experience Reality Therapy as a technique for counseling. (Prerequisite: GC 530)

GC 545 Counseling from an Existential-Humanistic Perspective (3 crs.)

An examination of the philosophy of Existentialism with particular emphasis on its relevance to counseling. Topics include the existential crisis, authenticity, resistance, the role of the counselor, the self, anxiety and choice. (Prerequisite: GC 530)

GC 546 Parent and Family Counseling (3 crs.)

An introduction to parent and family therapy theory and technique. Role-playing and viewing videotapes of sessions will aid participants in mastering the material. (Prerequisite: GC 530)

GC 547 Individual Psychology in Counseling and Consultation (3 crs.)

Based on the theoretical orientation of individual psychology, the course is designed to develop counseling and consultation skills. Applications are made to a range of clients and students, with an emphasis on the school-age child and adolescent. Major topics

considered are personality development and assessment, counseling process, consultation, academic motivation and learning, program development in school systems, and working with parents. (Prerequisite: GC 530)

GC 550 Psychometrics in 766 for the Counselor (3 crs.)

Training in the administration, scoring and interpretation of the psychometric instruments used by counselors in work with special needs populations. Will include a demonstration of such instruments as the Leiter, Sequin, Bender-Gestalt, WRAT, PIAT, Merrill Palmer, Dvorine, CMMS, and VMI. (Prerequisite: GC 522, GC 524, or GC 525)

GC 551 Student Personnel Work in Higher Education (3 crs.)

An intensive introduction to the literature of student personnel and student development. Basic concepts, philosophies and current models, practices and issues in the field will be studied. (Prerequisite: GC 530)

GC 552 The Role of the Counselor in the Community Agency (3 crs.)

The role of the counselor in a variety of community settings will be examined. Theoretical orientation will be viewed in relation to the practical demands of community settings. Issues related to legislation, staffing, intake and referral, community liaison, funding and program evaluation will be discussed. (Prerequisite: GC 530)

GC 553 Seminar in College Admissions (3 crs.)

An introduction to the matters related to the transition of students to higher education. Specifically designed to allow the individual to experience and procure the necessary background to function as a Secondary School or College Admissions Counselor. (Prerequisite: GC 530)

GC 554 Internship — School Guidance Counselor (N-9) (6 crs.)**GC 555 Internship — School Guidance Counselor (5-12) (6 crs.)**

An Internship (GC 554 or GC 555) is less than full-time but at least one-fifth time employment in the role of School Guidance Counselor at the level of the certificate desired. An internship includes a minimum of 300 clock hours at the practicum site. Supervision is the responsibility of a member of the Counseling Program staff. Students must register with the Program Coordinator by May 15 for the fall semester internship, or by October 15 for the spring semester internship. (Prerequisite: 30 graduate credits in the Counseling Program, including all department core requirements, documentation of three appropriate pre-practicum field experiences, and a half practicum or consent of the Program Coordinator)

GC 556 Practicum — School Guidance Counselor (N-9) (6 crs.)**GC 557 Practicum — School Guidance Counselor (5-12) (6 crs.)**

A Practicum (GC 556 or GC 557) must be completed in the role of School Guidance Counselor, at the level of the certificate desired. A full practicum includes a minimum of 300 hours at the practicum site, and a half practicum includes a minimum of 150 hours. Supervision is the joint responsibility of the Counseling Program staff and a cooperating school practitioner. Students must register with the Program Coordinator by May 15 for the fall semester practicum, or by October 15 for the spring semester practicum. (Prerequisite: 30 graduate credits in the Counseling Program, including all department core requirements and documentation of three appropriate pre-practicum field experiences or consent of the Program Coordinator)

GC 558 Practicum — Agency Counselor (6 crs.)

GC 559 Practicum — College Student Personnel (6 crs.)

Candidates must complete a minimum of a 150 clock hour practicum within one calendar year in a role and at a site approved by the Coordinator of the Counseling Program. Students must register with the Program Coordinator by May 15 for the fall semester practicum and by October 15 for the spring semester practicum. *(Prerequisite: 30 graduate credits in the Counseling Program including all department requirements and documentation of appropriate field experience)*

GC 560 Special Topics in Counseling (3 crs.)

Special topics of current relevance in counseling will be offered from time to time. The topic to be addressed will be announced in pre-registration publications. May be taken more than once with the consent of the advisor. *(Prerequisite: At least 9 hours in counseling or permission of the Instructor. Course prerequisites may be specified depending upon the nature of the topic.)*



Department of Earth Sciences and Geography

Chairperson: Associate Professor Glenn Miller
Professors: Robert Boutilier, Robert Dillman,
 Richard Enright, Ira Furlong, Agrippina Macewicz
Associate Professors: Reed Stewart, Jacek Sulanowski
Assistant Professors: Paul Blackford, Vernon Domingo,
 Marilyn Furlong

The Department of Earth Sciences and Geography offers undergraduate majors in Earth Sciences and Geography. Majors in Earth Sciences may elect a concentration in geology. In addition, programs in Chemistry-Geology, Oceanography, and Urban Affairs and Planning are available. See the *Undergraduate Multidisciplinary and Pre-Professional Programs* section of this catalogue.

The department works actively with state and regional agencies on socio-economic and environmental problems. Research on alternate energy sources, coastal storm impacts, regional economic developments, transportation planning, coal potential in Southeastern Massachusetts, determination of radon pollution in Eastern Massachusetts, and the impact of PCB's in New Bedford Harbor are some of the current projects.

Programs leading to the degree of Master of Arts in Teaching with a concentration in earth sciences or geography are offered by the Department.

Modern equipment enables the department to offer investigation oriented laboratory experience. This equipment includes: (1) an X-ray Diffractometer with powder cameras; (2) thin section equipment; (3) polarizing and stereoscopic microscopes; (4) atomic absorption spectro-photometer; (5) seismic refraction unit; (6) surveying equipment; (7) a proton precession magnetometer; (8) earth resistivity unit; (9) Frantz Isodynamic Separator; (10) coastal research vessel; (11) a digitizer/planimeter and an 8-pen plotter; (12) various computer terminals; and (13) a portable gamma-ray spectrometer.

In addition, the department has a well-equipped cartographic laboratory and a computer laboratory, a climatological station with solar radiation recording instrumentation, a solar greenhouse classroom at the Burnell Campus School, an

astronomy observatory, and a wet geochemistry laboratory. Finally, this department has access to a scanning electron microscope through the Southeastern Massachusetts Consortium. The Department has an active Earth Sciences and Geography Club and has a chapter of Gamma Theta Upsilon, the international geographic honor society.

Undergraduate Programs

Geography

Bachelor of Arts/ Bachelor of Science

The geography major is designed to provide the student with an understanding and appreciation of the physical and cultural attributes of the world in which he lives.

Opportunities for graduates include careers as geographers or cartographers in private industry, in many federal, state and local agencies, in urban and regional planning, in marketing and business offices, in governmental or private environmental offices, and as secondary school teachers. Courses leading to specialization in the following areas are available:

1. Urban and Regional Planning*
2. Environmental and Resources Management*
3. Business*
4. Regional Studies
5. Education

*Internships are available within these areas.

Geography Major

GE 100 Physical Geography

GS 110 Human Geography

GE 204 Climatology

GE 216 Cartography

GS 362 Economic Geography

GE 490 Seminar in Geography

GS 353 Urban Geography

or

GS 473 Political Geography

Three additional Physical Geography or Earth Sciences courses

One course from:

GE 217 Air Photo Interpretation--Surveying

GE 354 Field Methods in Urban Geography

GS 363 Locational Analysis

GE 418 Computer Cartography

GE 440 Field Research in Appalachia

One regional geography course (other than GS 160 or 170)

ID 260 Quantitative Methods in Earth Sciences and Geography

plus one year of mathematics

Competence in a modern foreign language at the intermediate level, as evidenced by completion of an intermediate level one year course, or an equivalent

Not more than one "D" for a semester course in the major shall be accepted to fulfill the requirements for this program.

Minor in High School Education

Students minoring in education must refer to the Department of High School, Middle School, and Adult Education for specific teacher certification and program requirements.

Geography Minor

GE 100 Physical Geography

GS 110 Human Geography

Four additional Geography courses recommended by the department

Earth Sciences

The major in earth sciences is a broad based program that provides the student with an understanding and appreciation of the physical aspects of the earth and universe. Career opportunities for graduates exist in government service, industry, conservation and park management, and environmental studies relating to environmental impact statements as well as teaching in the secondary schools.

Earth Sciences Major

ES 100 Physical Geology

ES 101 Historical Geology

ES 284 Geomorphology

ES 301 Astronomy

or

ES 302 Astronomy II

GE 203 Meteorology

ES 306 Introduction to Oceanography II

ES 372 Mineralogy

ES 463 Petrology

A minimum of three additional courses selected with the advisor's approval

MA 101-102 Calculus I-II

or

MA 103-104 Elements of Calculus I-II

CH 131-132 General Chemistry I-II

or

CH 141-142 Chemical Principles I-II

One year of Physics or Biology

Competence in a modern foreign language at the intermediate level, as evidenced by completion of an intermediate level one year course, or an equivalent
Not more than one "D" for a semester course in the major shall be accepted to fulfill the requirements for this program.

Minor in High School Education

Students minoring in education must refer to the Department of High School, Middle School, and Adult Education for specific teacher certification and program requirements.

Earth Sciences Minor

ES 100 Physical Geology

ES 101 Historical Geology

Four additional Earth Sciences courses as recommended by the department

Geology Concentration

The concentration in geology provides students with an understanding of the physical aspects of the earth and the processes which act upon it. Students are prepared for government service, for environmental work relating to impact studies, and for work in such fields as engineering, mining or petroleum geology.

ES 100 Physical Geology

ES 101 Historical Geology

ES 283 Structural Geology

ES 284 Geomorphology

ES 372 Mineralogy

ES 463 Petrology

ES 475 Paleontology

Four additional courses selected with the advisor's approval

MA 103-104 Elements of Calculus I-II

or

MA 101-102 Calculus I-II

CH 131-132 General Chemistry I-II

or

CH 141-142 Chemical Principles I-II

Physics or Biology:

PH 181-182 Elements of Physics I-II

or

PH 243-244 General Physics I-II

or

BI 100 General Principles of Biology and

BI 104 Applied Principles of Biology.

Competence in a modern foreign language at the intermediate level, as evidenced by completion of an intermediate level one year course, or an equivalent

Not more than one "D" for a semester course in the major shall be accepted to fulfill the requirements for this program.

Chemistry-Geology Major

A Major in Chemistry-Geology is offered jointly with the Department of Chemical Sciences. See the catalogue section *Undergraduate Multidisciplinary and Pre-Professional Programs* for details.

Geo-Physics Minor

A minor is jointly offered with the Department of Physics. For further information, contact the department chairpersons.

Graduate Programs

Master of Arts in Teaching

The Department offers a program leading to the degree of Master of Arts in Teaching with concentrations in earth sciences and geography, which are designed primarily for in-service teachers to provide a foundation for further graduate work. All accepted students must enroll under the direction of their advisor in GS 501 Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue. Graduate students enrolled in the M.A.T. program are required to have, or acquire outside of the degree program, a background of introductory college level courses in natural science and mathematics, to be determined by the department. Degree requirements include a minimum of 12 appropriate graduate credits in designated areas of professional study (consult M.A.T. degree requirements in the Graduate School section of this catalogue), and a minimum of 18 appropriate graduate credits in the academic concentration (approved by the program advisor on the basis of the background, interests, and needs of the student).

The departmental offerings listed below include the following courses which may not be taken for graduate credit:

All courses in the 100 level

ES 201 Topics in Earth Science for

Elementary School Teachers

ES 499 Directed Study in Earth Science

GE 499 Directed Study in Geography

GS 210 Geography of War and Peace

Course Offerings*

Earth Sciences

ES 100 Physical Geology (3 crs.)

This is an introduction to the processes that formed and continue to shape the earth. Lecture topics include continental drift, rock and mineral forming processes, and the effects of agents of erosion such as glaciers, streams and waves. The laboratories develop skill in rock identification and map interpretation. Two hours lecture and two hour lab weekly. Satisfies the GER in Physical and Biological Sciences. *Either semester*

ES 101 Historical Geology (3 crs.)

The origin and evolution of the earth and the life upon it. Two lecture periods and one two-hour laboratory period weekly. (Prerequisite: ES 100) *Spring semester*

ES 102 History of the Earth (3 crs.)

Theories concerning the origin and evolution of the earth, the atmosphere, the oceans, the continents, and life are discussed. Satisfies the GER in Physical and Biological Sciences (non-lab course). *Either semester*

ES 194 Environmental Geology (3 crs.)

This course introduces students to the application of geologic principles in recognizing and controlling the effects of environmental problems such as earthquakes, volcanoes, floods, beach erosion, hazardous waste disposal and ground water quality. Satisfies the GER in Physical and Biological Sciences (non-lab course). *Either semester*

ES 201 Topics in Earth Science for Elementary School Teachers (3 crs.)

An introduction to rocks, minerals, fossils, and the processes that mold the earth's surface such as running water, glaciers, winds, and waves. Emphasis will be on investigations that can be conducted in the classroom or in the immediate vicinity of a school, with topics selected from, but not restricted to, nationally developed science curricula. One two-hour lecture and one two-hour lab. *Offered alternate years, fall semester*

ES 240 Hydrology (3 crs.)

Relations of surface to groundwater. Geologic controls of flow in ideal mathematical models and imperfect natural settings. Water supplies as renewable resource. Two hours lecture and two hours lab. (Prerequisite: Permission of the Instructor) *Fall semester*

ES 283 Structural Geology (3 crs.)

Analysis and origin of rock structures. Two lecture periods and one two-hour lab period weekly. (Prerequisite: ES 100, 101) *Spring semester*

ES 284 Geomorphology (3 crs.)

Relationships between gradational and tectonic forces and the resulting surface configuration of the earth. Two lecture periods and one three-hour laboratory period weekly. (Prerequisite: ES 100 or consent of the Instructor) *Fall semester*

ES 301 Astronomy (3 crs.)

A study of the celestial sphere, motions of the moon and planets, and the history of man's attempts to understand these phenomena. There will be evening observation sessions and a trip to a nearby planetarium. (Prerequisite: GE 100, GE 120, MA 103, PH 181 or consent of the Instructor) *Fall semester*

ES 302 Astronomy II (3 crs.)

This course will be devoted to the study of the planets, the stars, stellar evolution, galaxies, cosmology and life in the universe. There will be evening observation sessions. (Prerequisite: ES 301 or consent of the Instructor) *Spring semester*

ES 305 Introduction to Oceanography I (3 crs.)

Survey of marine life forms and of the chemistry of seawater. (Prerequisite: BI 100, BI 102, or consent of the Instructor) *Fall semester*

ES 306 Introduction to Oceanography II (3 crs.)

Ocean water temperature, circulation, salinity, instruments and methods of investigation. (Prerequisite: MA 101 and 102, or MA 103 and 104, or consent of the Instructor) *Spring semester*

ES 310 Geophysics (3 crs.)

A study of major earth forces, including discussions of the interior of the earth, heat distribution, convection and continental drift. (Prerequisite: Permission of the Instructor) *Offered alternate years, fall semester*

ES 311 Geochemistry (3 crs.)

Geological and chemical processes controlling the abundance and distribution of the elements at or near the earth's surface. (Prerequisite: Permission of the Instructor) *Spring semester*

ES 372 Mineralogy (4 crs.)

Geometrical and X-ray crystallography followed by the determinative mineralogy of ore and rock-forming minerals. Two lecture periods and two two-hour laboratory periods weekly. (Prerequisite: ES 100 and CH 131) *Fall semester*

ES 373 Optical Mineralogy (3 crs.)

Principles of optical crystallography. Measurement of optical constants with the polarizing microscope. One lecture period and two two-hour laboratory periods weekly. (Prerequisite: ES 372) *Offered alternate years, fall semester*

ES 374 Optical Petrology (3 crs.)

Systematic study of rocks and rock-forming minerals with emphasis upon the use of the polarizing microscope, interpretation of mineral assemblages, texture and structures, problems of petrogenesis. One lecture period and two two-hour laboratory periods weekly. (Prerequisite: ES 373) *Offered alternate years, spring semester*

ES 375 X-ray Analysis (3 crs.)

Principles and methods of X-ray diffraction analysis. Theory and practice of preferred orientation chemical analysis by diffraction and fluorescence. (Prerequisite: Permission of the Instructor) *Offered once in three years*

ES 463 Petrology (3 crs.)

Megascopic and microscopic classification of rocks and an introduction to petrogenesis. One lecture and two two-hour laboratory periods weekly. (Prerequisite: ES 372) *Spring semester*

ES 464 Economic Geology I (3 crs.)

Geochemical and physical processes that produce economic mineral deposits. Two lecture periods and one two-hour laboratory period weekly. (Prerequisite: ES 100) *Offered alternate years, fall semester*

ES 465 Economic Geology II (3 crs.)

Study of selected major metallic and non-metallic deposits, energy sources and hydrologic reserves. Methods of extraction and the resulting environmental impact. Two lecture periods and one two-hour laboratory period weekly. (Prerequisite: ES 100) *Offered alternate years, fall semester*

*See pages 66-67 for general information regarding course offerings.

ES 475 Paleontology (3 crs.)

A survey of the fossil record stressing the most important invertebrate phyla and their environmental relationships. Two lecture periods and one two-hour laboratory period weekly. (*Prerequisite: ES 100, 101 or consent of the Instructor*) *Fall semester*

ES 476 Sedimentology and Stratigraphy (3 crs.)

Introduction to modern concepts and principles in sedimentology, paleoecology, and correlation: lithostratigraphic and biostratigraphic classification and interpretation of depositional and organic environments. Two lecture periods and one two-hour laboratory period weekly. (*Prerequisite: ES 100, 101 or consent of the Instructor*) *Spring semester*

ES 490 Field Methods in Geology (3 crs.)

Collection, processing and interpretation of field data developed by geologic mapping. Presentation of geologic reports involving maps, cross-sections and sample data. One lecture period and two two-hour laboratory periods weekly. (*Prerequisite: ES 100, 101 or consent of the Instructor*) *Spring semester*

ES 498 Field Experiences in Earth Science (3-15 crs.)

Intended to provide an opportunity for senior earth science majors to gain practical experience in the field. Placements will be made in appropriate local, state and federal agencies as well as with private corporations. (*Prerequisite: Consent of the Department*) *Either semester*

ES 499 Directed Study in Earth Science (1-3 crs.)

Open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. (*Prerequisite: Consent of the Department*) *Either semester*

Other Approved Courses:

ES 130 Extraterrestrial Life
ES 220 Ceramic Materials
ES 230 Engineering Geology
ES 300 Excursions in Geology
ES 413 Survey of Physical and Historical Geology
ES 462 Geology of North America
ES 466 Glacial Geology
ES 477 Micropaleontology
ES 497 Research in Earth Science

ES 502 Research (credit to be arranged)

Original research undertaken by the graduate student in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

ES 503 Directed Study (credit to be arranged)

Designed for the graduate student who desires to study selected topics in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

ES 550 Modern Developments in Earth Science (3 crs.)

An introduction to recent developments in the areas of Continental Drift, Environmental Geology, Regional Geology, Energy Resources and Paleontology. Three (3) required Saturday field trips. (*Prerequisite: Science teaching experience at the pre-baccalaureate level and consent of the Instructor*)

Physical Geography

GE 100 Physical Geography (3 crs.)

This is an introduction to physical geography phenomena (landforms, climate, oceans, soils) in which human-land relationships are central. The focus is on understanding the processes at work in the environment and on their interrelationships. Two hours lecture and two hours lab weekly. Satisfies the GER in Physical and Biological Sciences. *Either semester*

GE 120 The Physical World (3 crs.)

This course studies the formation and distribution of landforms, climates, soils and vegetation. Emphasis is placed on the interrelationships among these components of the environment and their significance to life on earth. Satisfies the GER in Physical and Biological Sciences. *Either semester*

GE 196 Environmental Geography (3 crs.)

The spatial aspects of the interaction between humans and their physical environment are examined through the analysis of selected problems from resource capacity to pollution. The perceptions of environmental hazards of human settlements are examined to illuminate environmental decision-making. Satisfies the GER in Physical and Biological Sciences (non-lab course). *Either semester*

GE 203 Meteorology (3 crs.)

Study of the basic atmospheric processes that result in weather, regional weather systems. Basic instrumentation and practice in observing, data presentation, and interpretation of weather maps. Two lecture periods and one two-hour laboratory period weekly. (*Prerequisite: GE 100, GE 120 or consent of the Instructor*) *Formerly GE 303. Fall semester*

GE 204 Climatology (3 crs.)

Study of the elements and controls of climate emphasizing their effect on man and the environment, and man's response to and modification of climate. The world distribution of climatic regions. Instrumentation and practice in observing, data presentation and analysis. (*Prerequisite: GE 100 or GE 120 or GE 303 or consent of the Instructor*) *Formerly GE 304. Spring semester*

GE 216 Cartography (3 crs.)

Theory and practice in the design and drafting of maps, graphs and charts for the graphic presentation of geographical and statistical information. One lecture period and four laboratory hours weekly. Additional laboratory time may be required. (*Prerequisite: GE 100 or GE 120 or ES 100 or consent of the Instructor*) *Spring semester*

GE 217 Air Photo Interpretation -- Surveying (3 crs.)

Theory and practice in extracting information about the earth's physical and cultural features from aerial photographs. Introductory plane surveying theory and field practice. Two lecture periods and three laboratory hours per week. Additional laboratory and field time may be required. (*Prerequisite: GE 100 or GE 120 or ES 100 or consent of the Instructor*) *Fall semester*

GE 307 Management and Preservation of Natural Environment (3 crs.)

This course is devoted to a detailed examination of the occurrence, exploitation and conservation of natural resources, including minerals, soils, water, forests, grasslands, fisheries, wildlife, recreation areas and scenery. Emphasis is placed on conservation in the United States. (*Prerequisite: Permission of the Instructor*) *Offered alternate years, spring semester*

GE 311 Energy and the Environment (3 crs.)

A survey of world energy resources and problems. Patterns of supply and demand and the environmental effects of various types of energy development and utilization. (*Prerequisite: junior or senior standing or consent of the Instructor*) Formerly GE 411. Offered alternate years, spring semester

GE 312 Solar Energy (3 crs.)

This course concerns itself with the nature of solar energy, its measurement and distribution along with the factors affecting its availability on earth. Solar technology, collectors, storage and delivery systems will be studied and discussed as well as the relation of solar energy to the total energy problem and the environment. (*Prerequisite: junior or senior standing in a science major or consent of the Instructor*) Formerly GE 412. Offered alternate years, spring semester

GE 361 Geography of Environmental Problems (3 crs.)

Environmental problems are considered in this course from the geographer's point of view — problems such as population densities and distribution, balanced land use and its philosophic, aesthetic, and scientific basis, the circulation of goods and people, and a comparison of levels of development. (*Prerequisite: ES 100 or GE 100 or consent of the Instructor*) Offered alternate years, spring semester

GE 418 Computer Cartography (3 crs.)

Students are introduced to the use and application of computers in automated mapping operations, including the computer line printer, pen plotter, and CRT. Computer mapping software packages are introduced, with an emphasis on SYMAP, SYMVU, and CALFORM. Students will also learn map digitation processes. No knowledge of computer programming is required for the course. (*Prerequisite: GE 216*) Offered alternate years, fall semester

GE 498 Internship in Urban and Regional Planning (3-15 crs.)

Student internship in a local planning department or agency. The purpose of this internship is to provide a student with experience in various aspects of his planning interests. (*Prerequisite: Consent of the Department*) Either semester

GE 499 Directed Study in Geography (1-3 crs.)

Open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. (*Prerequisite: Consent of the Department*) Either semester

Other Approved Courses:

GE 180 Outdoor-Indoor Investigations in Physical Geography
 GE 354 Field Methods in Urban Geography
 GE 410 Urban Land Use Mapping
 GE 440 Field Research in Appalachia
 GE 497 Research in Geography

GE 500 Planning and Urban Environment (3 crs.)

Philosophy and problems of urban and regional planning.

GE 502 Research (credit to be arranged)

Original research undertaken by the graduate student in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

GE 503 Directed Study (credit to be arranged)

Designed for the graduate student who desires to study selected topics in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

GE 520 Improving the Teaching of Earth Science, Geography, and Energy I (3 crs.)

To update and improve the background of teachers with respect to new developments in geography, earth sciences and energy education. (This course is funded by a National Science Foundation Grant and is intended for elementary school teachers.) (*Prerequisite: Permission of the Instructor*)

GE 521 Improving the Teaching of Earth Science, Geography, and Energy II (3 crs.)

Evening workshops and Saturday field trips designed to aid teachers in the implementation of curriculum material. Two required Saturday field trips will be taken to the Boston Museum of Science and power plants in the greater Boston area. (*Prerequisite: GE 520 or consent of the Instructor*)

GE 540 Introduction to Hazardous Waste Management (3 crs.)

Course is designed to provide graduate students with an understanding of the major issues surrounding the management of hazardous waste. Topics to be covered include: the generation of hazardous wastes and their characteristics as defined by the Resource Conservation and Recovery Act (RCRA), the problems of abandoned disposal sites, alternative hazardous waste disposal technologies, siting of a hazardous waste management facility, and federal and state laws covering hazardous waste management. (*Prerequisite: GE 100 or GE 120 or ES 100 or ES 194 or consent of the Instructor*)

Geography as a Social Science

GS 110 Human Geography (3 crs.)

An inquiry into the theoretical and empirical approaches to the study of human spatial analysis is presented. The major topics covered include population, race, language, religion, politics, urbanization and economics. Satisfies the GER in Behavioral and Social Sciences. *Either semester*

GS 150 Geographic Approach to Social Science (3 crs.)

The interpretation of maps, globes and graphs as the basis for inferences about social phenomena and problems. This course has been developed in cooperation with the Elementary Education Department and is of special interest for future elementary school social studies teachers. Does not satisfy GER. *Offered alternate years, spring semester*

GS 160 Geography of Non-Western Cultures (3 crs.)

This course in human geography introduces the geographical study of the current cultural and social systems in the non-Western world (in Africa, Asia and Latin America). Emphasis is placed on the diversity of cultural frameworks and their strategies for dealing with problems. Formerly GS 261. Satisfies the GER in Non-Western Civilization. *Fall semester*

GS 170 Regional Geography: The Developed World (3 crs.)

The study of regional geography of the developed world (including Anglo-America, Europe and the Soviet Union, Australia and Japan) investigates how humans have used the resources available to them to obtain a high standard of living in different physical and cultural milieus. This high standard of living is reflected in land use patterns that are similar in their broad outlines but different in detail. Formerly GS 262. Satisfies the GER in Behavioral and Social Sciences. *Spring semester*

GS 200 Geography of the Bible (3 crs.)

A geographic description of places and events contained in the Old Testament literature. Formerly GS 300. *Offered once in three years*

GS 210 The Geography of War and Peace (3 crs.)

This course examines the spatial dimensions of war and peace in a world of finite human and environmental resources. Topics include the climatic effects of nuclear war, the distribution of weapons, and propaganda cartography. *Offered alternote years*

GS 353 Urban Geography (3 crs.)

The geographic aspects of the city including location, function, land use patterns, and interaction. Field work focuses on current problems facing urban life. (Prerequisite: GS 110 or consent of the Instructor) *Fall semester*

GS 362 Economic Geography (3 crs.)

The geographical analysis of the distribution of economic activities such as production, exchange and consumption is presented in this course. Here we examine the principles underlying spatial variations in land-use and economic development at the local, national and international levels. (Prerequisite: Consent of the instructor) *Fall semester*

GS 363 Locational Analysis (3 crs.)

An introduction to the field of marketing. Areas covered include marketing strategies, advertising, promotion, distribution, research and locational analysis. (Prerequisite: EC 200 or GS 362 or consent) Formerly GE 363. *Spring semester*

GS 378 Geography of Anglo-America (3 crs.)

A description and analysis of the relationships between relevant physical and cultural features of regions in the United States and Canada. (Prerequisite: GE 100 or 120) Formerly GS 252. *Fall semester*

GS 380 Geography of the U.S.S.R. (3 crs.)

The geography of environment, resources and population are studied in relation to history and the present economic and social system of the Soviet Union. (Prerequisite: GE 100 or GE 120 or GS 110) Formerly GS 404. *Offered alternote years, fall semester*

GS 382 Geography of Europe (3 crs.)

The character of the natural and cultural environments of the geographic regions of Europe. (Prerequisite: GE 100 or GS 110 or consent of the Instructor) Formerly GS 451. *Offered once in three years*

GS 384 Geography of Asia (3 crs.)

The physical and cultural patterns of selected countries of Asia. (Prerequisite: GE 100 or GS 110 or consent of the Instructor) Formerly GS 452. *Offered once in three years*

GS 386 Geography of Canada (3 crs.)

The geography of environment, resources and population are examined in relation to history, economic, and regional land patterns of Canada. (Prerequisite: GE 100 or GS 110 or consent of the Instructor) Formerly GS 453. *Offered alternote years, spring semester*

GS 388 Geography of Africa (3 crs.)

The physical and cultural features of the African continent with special reference to the emerged political and regional patterns. (Prerequisite: GE 100 or 120 or GS 110) Formerly GS 461. *Spring semester*

GS 420 Principles of Urban and Regional Planning (3 crs.)

An introduction to the process of planning which deals with the interrelationships of resources, facilities, activities, and people over time and space. (Prerequisite: Consent of the Instructor and/or GS 353) Formerly GE 420. *Offered alternote years, spring semester*

GS 450 Geography of Agriculture and Food Production (3 crs.)

A study of food producing capabilities of different climatic environments, technologies, and management systems throughout the world, via case study approach. (Prerequisite: GE 100 or 120 or consent of the Instructor) *Offered once in three years*

GS 473 Political Geography (3 crs.)

The course examines the variation of politically-organized areas and their relationships to each other. The focus is on the interaction of geographical factors (distance, location and distribution) and political process. Emphasis is on both state and non-state agents in the political arrangement of space. (Prerequisite: Consent of the instructor) *Fall semester*

GS 490 Seminar in Geography (3 crs.)

The historical development of methods and techniques used in geographic research. Preparation of a research paper on a problem selected from one of the subdivisions of geography. For senior Geography majors. Formerly GE 471.

Other Approved Courses:

GS 115 Map Skills for the Citizen

GS 358 Geography of Latin America

GS 430 Geography of Transportation

GS 470 Historical Geography of New England

Department of Economics

Chairperson: Associate Professor Stanley Antoniotti
Assistant Professors: Margaret Barber, Anthony Cicerone,
Ranjit Vohra

Undergraduate Programs

The department offers the courses listed below for undergraduates majoring in other areas who wish to include economics electives in their programs.

Economics Minor

Students minoring in Economics must take seven three-credit courses, five of which are required: -

- EC 101 Principles of Microeconomics
- EC 102 Principles of Macroeconomics
- EC 201 Intermediate Microeconomic Theory and Policy
- EC 205 Intermediate Macroeconomic Theory
- EC 210 Quantitative Analysis for Economics

Graduate Programs

The Department of Economics does not offer a program at the master's degree level. Economics courses may be taken, with faculty advisor approval, in a program leading to the degree of Master of Arts in Teaching with a concentration in social sciences. Detailed information regarding this degree may be found in the Graduate School section of this catalogue as well as under the Division of Social Sciences.

The departmental offerings listed below include the following courses which may not be taken for graduate credit:

- EC 101 Principles of Microeconomics
- EC 102 Principles of Macroeconomics
- EC 499 Directed Study in Economics



Course Offerings*

EC 101 Principles of Microeconomics (3 crs.)

This course focuses on the theory and application of utility and demand, production, cost and market analysis. Satisfies the GER in Behavioral and Social Sciences. *Either semester*

EC 102 Principles of Macroeconomics (3 crs.)

This course focuses on the theory and application of the following: national income analysis and determination, fiscal policy, monetary theory and policy, and the Federal Reserve system. Satisfies the GER in Behavioral and Social Sciences. *Either semester*

EC 201 Intermediate Microeconomic Theory and Policy (3 crs.)

The theory of consumer behavior and demand, production and cost, the firm and market organization are discussed with emphasis placed on practical applications. (Prerequisite: EC 101-102 or consent of the Instructor) *Either semester*

EC 205 Intermediate Macroeconomic Theory (3 crs.)

Keynesian, post Keynesian and Monetary models of the economy are used in detail. Emphasis is placed on the application of theory to all Macroeconomic problems. (Prerequisite: EC 101-102 or consent of the Instructor) *Spring semester*

EC 210 Quantitative Analysis for Economics (3 crs.)

Quantitative analysis discusses the following subjects: data collection and presentation, measures of central tendency and dispersion, probability, sampling, hypothesis testing, and regression, and correlation analysis. (Prerequisite: MA 103-104; EC 101-102; or consent of the Instructor) *Spring semester*

EC 301 Industrial Organization (3 crs.)

An analysis of the structure, conduct and performance of industries. Topics discussed include causes and measurement of market concentration, strategic behavior of firms, and the development of public policies, such as antitrust and regulation, that affect business. (Prerequisite: EC 101 and EC 102 or consent of the Instructor) *Fall semester*

EC 315 Money and Banking (3 crs.)

The roles and functions of money and the banking system are discussed. Various theories and policies are examined and their influence on the state of the economy. (Prerequisite: EC 101-102 or consent of the Instructor) *Fall semester*

EC 320 Comparative Economic Systems (3 crs.)

A study of philosophical and structural foundations of capitalism and democratic socialism. Emphasis is placed on a comparison of the American economy to the economies of other countries. *Fall semester*

EC 321 International Economics (3 crs.)

A study of pure trade theory and its application to solving policy problems. Topics include Balance of Trade, Balance of Payments and Monetary Systems. (Prerequisite: EC 101-102 or consent of the Instructor)

EC 350 Urban Economic Problems and Policies

The economic aspects of selected urban problems such as housing, poverty, transportation, crime and the urban environment are analyzed. Public policies relating to these problems are discussed. (Prerequisites: EC 101 and EC 102, or permission of the Instructor) *Offered alternate years*

EC 375 Labor Economics (3crs.)

This course analyzes the determination of wages and employment in the labor market. Applications of the theory include unemployment,

discrimination, safety in the workplace, and unions. Effects of government policies, such as comparable worth, affirmative action, and health and safety regulations, are examined. (Prerequisite: EC 101 and EC 102 or permission of Instructor)

EC 410 Mathematical Economics I (3 crs.)

The use of calculus and other mathematical tools in comparative static analysis and the solving of optimization problems in economics. (Prerequisite: MA 103-104, MA 223, EC 101-102 or consent of the Instructor) *Offered alternate years*

EC 411 Mathematical Economics II (3 crs.)

A continuation of Mathematical Economics I. Dynamic analysis using the tools of integral calculus, differential equations and difference equation; some linear programming and game theory are discussed. (Prerequisite: EC 410) *Offered alternate years*

EC 420 Econometrics I (3 crs.)

A discussion of the motive of econometrics, the two variable linear model, the general linear model, the generalized least squares estimator and auto-correlation. (Prerequisite: MA 103-104, MA 223 or EC 410 and EC 411; EC 101-102 or consent of the Instructor) *Offered alternate years*

EC 421 Econometrics II (3 crs.)

A continuation of Econometrics I. This course discusses stochastic regressors, instrumental variables, errors in variables, lagged variables and simultaneous equation methods. (Prerequisite: EC 420) *Offered alternate years*

EC 499 Directed Study in Economics (1-3 crs.)

Open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. (Prerequisite: Consent of the Department) *Either semester*

Other Approved Courses:

EC 400 History of Economic Thought

EC 502 Research (credit to be arranged)

Original research undertaken by the graduate student in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

EC 503 Directed Study (credit to be arranged)

Designed for the graduate student who desires to study selected topics in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

EC 510 Graduate Seminar in Domestic Economic Problems (3 crs.)

Group discussion and individual research on problems of the American economy. (Prerequisite: Consent of the Instructor)

EC 520 Graduate Seminar in International Economic Problems (3 crs.)

Group discussion and individual research on the problems of the world economy. (Prerequisite: Consent of the Instructor)

EC 531 Economics for Elementary Teachers (3 crs.)

The development of economic programs and units for the elementary student in an area of interest, from materials and sources introduced in the course. (Prerequisite: A bachelor's degree and some background in Elementary Education)

EC 532 Economics for Secondary Teachers (3 crs.)

The development of economic programs and units for the secondary student in an area of interest from materials and sources introduced in the course. (Prerequisite: A bachelor's degree and some background in Education)

*See pages 66-67 for general information regarding course offerings.

Educational Leadership and Administration

School Administration Committee

Program Coordinator: Robert Sharples

Professor: Ray Harper

Associate Professor: Paul Kelley

Assistant Professors: John Jones, Louis Taris,
Thomas Wolpert

Staff: David Freitas, Jacquelyn Madry-Taylor,
Edward Meaney, Stephen Traw, Thomas Walsh

Alumna: Susan Randall

Student: Robert Smith

The Master of Education in School Administration program (M.Ed.), the Certificate of Advanced Graduate Study in Education program with an emphasis on School Administration (CAGS), and the non-degree Post-Bachelor's certification program are designed to prepare students for the following positions in school administration:

Supervisor/Director (various levels)

Administrator of Special Education (all levels)

Director of Guidance (all levels)

Elementary School Principal (N-6)

Middle School Principal (5-9)

High School Principal (9-12)

Superintendent/Assistant Superintendent (all levels)

These programs have been approved for certification purposes by the Massachusetts Department of Education. This includes certification reciprocity with signatory states under the Interstate Certification Compact.

Only those who have completed one year of successful full-time teaching will be considered for admission to these programs. Applicants must file the Graduate School form *Certificate of Teaching*.

Upon completion of their program option, students seeking Massachusetts certification must possess a Massachusetts teacher's certificate and have had three years of employment in the role covered by that certificate.

All accepted students must enroll under the direction of their advisor in GS 501 Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue.

For additional information relative to the CAGS and Post-Bachelors Certification Programs, students should consult with the Coordinator of the program.



Master of Education in School Administration

A minimum of thirty-six approved graduate credits is required in this degree program. It should be understood that those who anticipate preparing for some of the above positions, such as a superintendency, should plan to do graduate work beyond the minimum.

Applicants are required to enroll in SA 510 Seminar on Educational Leadership for the Future (SELF) prior to any review of their application material.

Students may choose one of eight program options: Supervisor/Director (various levels), Administrator of Special Education (all levels), Director of Guidance (all levels), Director of Pupil Personnel Services (all levels), Elementary School Principal (N-6), Middle School Principal (5-9), High School Principal (9-12), or Superintendent/Assistant Superintendent (all levels). As part of their chosen program option, students must satisfactorily complete the following curriculum:

1. SA 510 Seminar on Educational Leadership for the Future (prior to admission) — 3 credits.

2. Pre-practicum Requirements (including three field experiences):

A. Research Methods and Findings: GC 500 Research and Evaluation — 3 credits

B. Humanistic and Behavioral Studies: ED 504 Humanistic and Behavioral Foundations of Education — 3 credits.

C. Management and Leadership: SA 511 Educational Leadership and Managerial Effectiveness — 3 credits.

D. Supervision, Evaluation, and Development of Personnel and Programs: SA 564 Selection and Development of Educational Personnel — 3 credits.

E. Human Relations, Communications, and Public Relations: SA 567 Human Concerns in the Schools — 3 credits.

F. Curriculum Design and Evaluation, and Community Education: SA 578 Curriculum Improvement — 3 credits.

Elementary School Principal, Middle School Principal, High School Principal, and Superintendent/Assistant Superintendent program options only:

G. Fiscal Planning and Budgeting: SA 565 School Finance and Business Administration — 3 credits.

H. School Law and Labor Relations: SA 569 Legal Aspects of Educational Administration — 3 credits.

Superintendent/Assistant Superintendent option only:

I. SA 591 Seminar in School Administration: the Superintendency — 3 credits or University of

Massachusetts at Amherst School of Education course EDUC P791 Seminar in School Administration: The Superintendency — 3 credits.

3. Practical Application - one of the following three courses (degree requirement for Superintendent/Assistant Superintendent (all levels) and for other program options as indicated herein):

- SA 561 Elementary School Administration — 3 credits (degree requirement for Elementary School Principal (N-6) program option)

- SA 563 Middle School Administration — 3 credits (degree requirement for Middle School Principal (5-9) program option)

- SA 562 High School Administration — 3 credits (degree requirement for High School Principal (9-12) program option)

4. SA 568 Seminar in School Administration — 3 credits.

5. Practicum or Internship (one of the following courses):

- SA 580 Practicum in Administration of Special Education, 6 credits

- SA 583 Practicum in Supervisorship/Directorship, 6 credits

- SA 584 Practicum in Elementary School Principalship, 6 credits

- SA 585 Practicum in Middle School Principalship, 6 credits

- SA 586 Practicum in High School Principalship, 6 credits

- SA 587 Practicum in Superintendency/Assistant Superintendency, 6 credits

- SA 588 Practicum in Directorship of Guidance, 6 credits

- SA 589 Practicum in Directorship of Pupil Personnel Services, 6 credits

- SA 590 Administrator of Special Education Internship, 6 credits

- SA 593 Supervisor/Director Internship, 6 credits

- SA 594 Elementary School Principal Internship, 6 credits

- SA 595 Middle School Principal Internship, 6 credits

- SA 596 High School Principal Internship, 6 credits

- SA 597 Superintendent/Assistant Superintendent Internship, 6 credits

- SA 598 Director of Guidance Internship, 6 credits

- SA 599 Director of Pupil Personnel Internship, 6 credits

Upon completion of their program option, students seeking Massachusetts certification must possess a Massachusetts teacher's certificate and have had three years of employment in the role covered by that certificate.

Comprehensive examinations are given by the Committee during the months of November and April only. Students should consult the College Calendar in this catalogue for examination request deadlines.

For additional information relative to this program, students not yet accepted should consult with the Coordinator of the program.

Certification Through Advanced Graduate Study

Graduate students holding a master's degree in an education field and who are seeking Massachusetts certification as a school administrator may substitute SA 575 Research Issues in School Administration for GC 500 Research and Evaluation and may substitute SA 577 Systems Planning for Educational Leaders for SA 511 Educational Leadership and Managerial Effectiveness.



Course Offerings*

SA 502 Research (credit to be arranged)

Original research undertaken by the graduate student in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

SA 503 Directed Study (3 crs.)

Designed for the graduate student who desires to study selected topics in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

SA 510 Seminar on Educational Leadership for the Future (3 crs.)

Designed to provide for individual self-appraisal, institutional assessment, and professional development planning. Offered as a series of six bi-weekly sessions using Friday evenings and Saturday mornings. Provides information on educational leadership and management concepts, situations, problems; provides an introduction to faculty and program; offers counseling assistance for career planning.

SA 511 Educational Leadership and Managerial Effectiveness (3 crs.)

Facets of educational leadership and management involved in the effective development of programs designed to meet the needs of students, staff, and the community will be explored. Emphasis is on goal setting, establishing priorities, allocating resources, and facilitating the educational process in response to those needs. Students are expected to do in-depth reading of recent research, particularly in the area of educational administration. (Prerequisite: SA 510 or permission of the Instructor)

SA 513 Special Topics in Educational Administration (3 crs.)

Selected and timely topics in the various fields of emphasis pertaining to educational administration. The topics to be addressed will be announced in pre-registration publications. May be taken more than once with the consent of the advisor. (Prerequisite: At least nine hours in educational administration or consent of the Instructor. Additional prerequisites may be specified depending upon the nature of the topic.)

SA 559 Administration of Community Education Program (3 crs.)

Development of an understanding of how administrators can develop a successful educational process in their neighborhood through community involvement and maximum facility planning. (Prerequisite: SA 510 or permission of the Instructor)

SA 560 The American Public School Today (3 crs.)

A survey of the principles of school organization and administration: program, pupil services, personnel, plant and equipment, and public relations. Emphasis is on common practice, issues and trends. Experience in staff participation through the use of the administrative process in class work and projects both individual and group. (Prerequisite: ED 380, or ED 382, or ED 480, or permission of the Instructor)

SA 561 Elementary School Administration (3 crs.)

SA 562 High School Administration (3 crs.)

SA 563 Middle School Administration (3 crs.)

The application of the general principles of school administration to the specific problems of the elementary, middle, or high school. Emphasis is on the areas of curriculum development and program evaluation; personnel supervision and evaluation; goal setting, establishing priorities, allocating resources, facilitating the educational process in response to the needs of learners, teachers, and the community;

school law; budgeting; plant management; community education; human concerns including dealing in an equitable, sensitive, and responsive manner with students, teachers, parents, and the community. (Prerequisite: Completion of 15 credits applicable to the program)

SA 564 Selection and Development of Educational Personnel (3 crs.)

Staff selection and development will be studied including theories and techniques of supervision, evaluative procedures to assess the effectiveness of programs and personnel, organizational characteristics of schools and strategies for institutional change, inservice education, and personnel and program planning. (Prerequisite: SA 510 or permission of the Instructor)

SA 565 School Finance and Business Administration (3 crs.)

A study of the financial support for public schools from local, state, and federal governments. Fiscal planning, budgeting, plant management, state and municipal financing, accounting and purchasing procedures, distribution of supplies and services, transportation, and food service will receive attention. (Prerequisite: SA 510 or permission of the Instructor)

SA 566 School Plant Planning and Administration (3 crs.)

For the specialist in school administration who may ultimately go on to school district administration at the central office. A study of in-depth coordination of the many factors involved in planning, construction, maintaining and administering the modern school plant. (Prerequisite: SA 510 or permission of the Instructor)

SA 567 Human Concerns in the Schools (3 crs.)

A study of theory, research, and practice in the area of human relations in the school including public relations; clear and appropriate communication; and equitable, sensitive, and responsive relations with students, teachers, parents, and the community. (Prerequisite: SA 510 or permission of the Instructor)

SA 568 Seminar in School Administration (3 crs.)

Study and analysis of current problems and issues in school administration. (Prerequisite: Completion of 24 credits applicable to the M.Ed. in School Administration Program or, for CAGS students, permission of the Instructor)

SA 569 Legal Aspects of School Administration (3 crs.)

Legal rights, duties and liabilities of school personnel in general relationship to the school committee in Massachusetts will be studied. Intended for administrators, prospective administrators, and classroom teachers interested in the legal aspects of school committees, school property, teaching contracts, labor relations and collective bargaining, tenure, prevention of injury and accidents to students, relationships with parents, and a general survey of educational law cases at the local, state, and national levels. (Prerequisite: SA 510 or permission of the Instructor)

SA 570 Contemporary Issues in School Administration (3 crs.)

Designed to help the practicing and aspiring administrator acquire a knowledge base for dealing with timely issues which confront school personnel, this course features research and discussion of topics of immediate concern not normally covered in other program offerings. (Prerequisite: SA 510 or ED 570 or permission of the Instructor)

SA 571 Introduction to Theory and Understanding of Group Interaction (3 crs.)

Directed to teachers and administrators who wish to be more effective in working with groups. Consideration will be given to the group process and staff development with emphasis on the human relations aspect of interpersonal relationships. Group activities will be based on

*See pages 66-67 for general information regarding course offerings.

improving understanding and utilization of skills in such areas as communication, cooperation, problem solving, conflict management and decision making. (*Prerequisite: SA 510 or permission of the Instructor*)

SA 573 Innovative Administration Practices in Modern Education (3 crs.)

An in-depth study of six or more topics that have current impact on school organization and administration. The innovations studied, selected in part by the class itself, vary from year to year, and may include such areas as Accountability, Cultural Pluralism, Differentiated Staffing, Negotiations, Open Campus, Open Education PPBS, or Rescheduled School Year. (*Prerequisite: SA 510 or permission of the Instructor*)

SA 575 Research Issues in School Administration (3 crs.)

The main focus of this course is on theory building and its pragmatic application to school administration problems. Course participants will review the literature of school organizations and critically analyze problems in school administration derived from this examination. Issues of research methodology that influence the school administrator's role and responsibilities will be examined. Students considering topics for CAGS in Education leadership projects and doctoral dissertations are particularly encouraged to enroll. (*Prerequisite: SA 510 or ED 570 or permission of the Instructor*)

SA 577 Systems Planning for Educational Leaders (3 crs.)

Successful educational planning and managerial strategies to assess and define needs, establish priorities, set goals, allocate resources, implement plans, and facilitate the instructional process in response to the needs of learners, teachers, and the community are explored. Specific innovative and effective techniques applied include Reference Behavior Graphs, Stryker Matrices, Causal Loop Diagrams, PERT, Needs Assessment, Nominal Group, Simulation, and Linear Programming. Additionally, the course examines the historical and legal background for educational policies and related recent research in educational administration. (*Prerequisite: SA 510 or ED 570 or permission of the Instructor*)

SA 578 Curriculum Improvement (3 crs.)

Contemporary theories of curriculum design and evaluation are explored. Students are expected to develop an eclectic approach to curriculum improvement based upon those theories and upon contemporary organizational factors, including leadership and management. Material is presented relating to developing community education programs, and to personnel and program planning. (*Prerequisite: SA 510 or permission of the Instructor*)

SA 581-582 Administrator Extern Program I and II (3 crs. each semester)

A blend of on-the-job training with a seminar approach to administration that is largely self-directed, evolves from the problems of the individuals comprising the group, is informal and takes place in a setting removed from the distractions of everyday life, provides long uninterrupted periods for discussions and interaction of problem statements and of ideas shared in formal presentation. (*Prerequisite: Appointment as an administrator*)

SA 580 Practicum in Administration of Special Education (6 crs.)

SA 583 Practicum in Supervisorship/Directorship (6 crs.)

SA 584 Practicum in Elementary School Principalship (6 crs.)

SA 585 Practicum in Middle School Principalship (6 crs.)

SA 586 Practicum in High School Principalship (6 crs.)

SA 587 Practicum in Superintendent/Assistant Superintendent (6 crs.)

SA 588 Practicum in Directorship of Guidance (6 crs.)

SA 589 Practicum in Directorship of Pupil Personnel Services (6 crs.)

Assumption of administrative responsibility, in the role and at the level identified by the course title, in a school under the joint supervision of a practicing administrator, in the role and at the level, who is properly certified and tenure-experienced, and a faculty member from the College. Requires a minimum of 150 clock hours (some of which could be after the school's classes are dismissed), 10 hours weekly for a semester of at least 15 weeks or 5 hours weekly for a school year of at least 30 weeks. (*Prerequisite: Completion of all pre-practicum credits applicable to the program*)

SA 591 Seminar in School Administration: The Superintendency (3 crs.)

Examination of major issues and problems confronting school superintendents. Students will be expected to study the relevant literature pertaining to school administration and prepare scholarly papers for class presentation. (*Prerequisite: Completion of 18 hours applicable to M.Ed. in School Administration or CAGS in Education*)

SA 590 Administrator of Special Education Internship (6 crs.)

SA 593 Supervisor/Director Internship (6 crs.)

SA 594 Elementary School Principal Internship (6 crs.)

SA 595 Middle School Principal Internship (6 crs.)

SA 596 High School Principal Internship (6 crs.)

SA 597 Superintendent/Assistant Superintendent Internship (6 crs.)

SA 598 Director of Guidance Internship (6 crs.)

SA 599 Director of Pupil Personnel Internship (6 crs.)

Employment less than full time, but at least one-fifth time, in the role and at the level identified by the course title, in a school under appropriate school and college supervisors. Requires a minimum of 300 clock hours (some of which could be after the school's classes are dismissed), 10 hours weekly for a school year of at least 30 weeks for those students having substantial employment in the appropriate role and at the appropriate level or 5 hours weekly for two such school years for students having minimal employment in the role and at the level. (*Prerequisite: Completion of one-half of the applicable pre-practicum courses*)

Department of Elementary and Early Childhood Education

Chairperson and Graduate Program Coordinator:
Professor Vincent Worden
Professors: Peter Bizinkauskas, Robert Daniel,
Wayne Dickinson, Diana Draheim, John Deasy,
Ray Harper, Margery Kranyik, Wayne Phillips
Associate Professors: Judith Deckers, Burton Goldman,
Gerald Thornell
Assistant Professors: John Jones, C. Thomas Wolpert

Undergraduate Programs

Elementary Education

Bachelor of Science in Education

The program of study for Elementary Education majors provides the student with the professional competencies necessary to become an effective elementary education teacher. These competencies include an understanding of how students learn and an ability to use appropriate and varied research-based teaching techniques. The professional competencies gained in the college course work are practiced in the senior student teaching practicum.

Before students can apply for a teaching practicum, they must apply for admission and be accepted in the Teacher Education Program.

Before entering methodology courses in reading, language arts, mathematics or social studies, a student must show evidence of a 2.2 cumulative average.

The student must successfully complete three pre-practica field experiences attached to the following courses:

- EE 220 Introduction to Strategies of Teaching
- EE 330 Teaching Reading in the Elementary School
- EE 340 Methods and Materials in Elementary
Language Arts
- EE 350 Methods and Materials in Elementary School
Mathematics
- EE 460 Methods and Materials in Elementary Science
- EE 470 Methods and Materials in Elementary Social Studies

Typically, the courses used are EE 220 and two other of the courses listed above that offer a prepracticum in any given semester on a rotating basis.

Students successfully completing the program are eligible to apply for Massachusetts certification in Elementary Education (1-6).

Additional information on the Teacher Education Program may be found in the section on the Division of Professional Education.

EE 220 Introduction to Strategies of Teaching
 EE 300 Elementary Art Methods
 EE 330 Teaching Reading in the Elementary School
 EE 340 Methods and Materials in Elementary Language Arts
 EE 350 Methods and Materials in Elementary School Mathematics
 EE 420 Educational Measurement
 EE 460 Methods and Materials in Elementary Science
 EE 470 Methods and Materials in Elementary Social Studies
 CC 130 Human Communication Skills
 ED 480 Philosophy of Education
 EE 492 Supervised Teaching in Public Schools - Elementary

HI 221 United States History and Constitutions to 1865
 ME 310 Introduction to Instructional Media
 PE 320 Physical Education for the Elementary Classroom Teacher

or

PE 465 Theory and Development of Play

or

HE 482 Health Education in the Elementary Schools
 MA 107 College Mathematics for Elementary Majors I
 SE 212 The Special Needs Learner in the Elementary School

SE 317 Teaching Strategies in Mainstreamed Programs
 Three credits in Geography as a Social Science
 PY 224 Child Psychology

or

ED 230 Educational Psychology

In addition to the above courses, each student, in consultation with a departmental advisor, is required to select 12 hours of course work in one of the following supplemental skill areas:

reading
 mathematics
 the arts
 science
 health and physical education
 communication

Early Childhood Education

The Department of Elementary Education offers a major in early childhood education which enables the student to prepare for career opportunities with young children from infancy through age eight. Students are provided with professional preparation in understanding stages of child growth and development, curriculum planning, teaching procedures, and program evaluation.

Students completing the program will be eligible to meet Commonwealth of Massachusetts teacher certification requirements for Teacher of Early Childhood Education (K-3).

Early Childhood Education

EE 230 Introduction to Early Childhood Education
 EE 300 Elementary Art Methods
 EE 352 Methods in Early Childhood Mathematics
 EE 361 Planning and Programming for Early Childhood
 EE 372 Success in Beginning Reading
 EE 420 Educational Measurement
 EE 462 Science and Social Studies Methods in Early Childhood
 EE 474 Methods and Materials in Early Childhood Language Arts
 ED 480 Philosophy of Education
 SE 211 The Special Needs Learner in the Pre-School
 SE 317 Teaching Strategies in Mainstreamed Programs
 EE 496 Supervised Teaching in Public Schools — Early Childhood

and/or

EE 497 Supervised Teaching in Preschool
 CC 130 Human Communication Skills
 CD 292 Language Acquisition and Development
 CC 400 Creative Techniques for Teaching
 HI 221 United States History and Constitutions to 1865
 HE 482 Health Education in the Elementary Schools
 ML 310 Children's Literature

or

ML 453 Sharing Literature with Children
 MA 107 College Mathematics for Elementary Majors I
 PE 322 Physical Activities for Early Childhood

or

PE 465 Theory and Development of Play
 PY 224 Child Psychology

or

PY 225 Psychology of Infancy and Early Childhood
 ME 310 Introduction to Instructional Media
 SO 102 Introduction to Sociology

All students in this program must apply for admission and be accepted in the Teacher Education Program. Also, before students can be placed in a student teaching practicum, they must have successfully completed the pre-practica field experiences attached to the following courses:

EE 230 Introduction to Early Childhood Education
 EE 361 Planning and Programming for Early Childhood
 EE 352 Methods in Early Childhood Mathematics
 EE 372 Success in Beginning Reading
 EE 474 Methods and Materials in Early Childhood Language Arts

Typically, the courses used are EE 230 and two other of the courses listed above that offer prepracticum in any given semester.

Before entering methodology courses in reading, mathematics or planning and programming, a student must show evidence of a 2.2 cumulative average.

Graduate Programs

The Department of Elementary and Early Childhood Education offers a non-degree, post-bachelor's certification program leading to the following specialized teaching certificates: Elementary Teacher (1-6) and Early Childhood Teacher (K-3). In addition, the Department offers the degree of Master of Education in several areas of study: Elementary Education, Elementary Education with a concentration in Computers in Education, Early Childhood Education, Elementary School Mathematics, and Reading.

Students who have already earned an appropriate master's degree may focus on one or more of these areas of study as part of a Certificate of Advanced Graduate Study (CAGS) in Education program; for details, consult the CAGS in Education description in this catalogue.

Post Baccalaureate Certification Program — Elementary Teacher (1-6)

The post bachelor's program is a non-degree program designed for liberal arts graduates who wish to be certified as an Elementary Teacher (1-6). This program has been approved by the Massachusetts Department of Education and includes certification reciprocity with signatory states under the Interstate Certification Compact.

Students admitted to the program must complete the following courses:

- GS 501 Graduate Program Planning
- EE 300 Elementary Art Methods
- *EE 330 Teaching Reading in the Elementary School
- *EE 340 Methods and Materials in Elementary Language Arts
- *EE 350 Methods and Materials in Elementary School Mathematics
- *EE 460 Methods and Materials in Elementary Science
- or
- *EE 470 Methods and Materials in Elementary Social Studies
- SE 510 Exceptional Children in the Schools
- ED 480 Philosophy of Education
- EE 450 Elementary School Curriculum
- ED 520 Psychological Foundations of Education
- EE 492 Supervised Teaching in Public Schools — Elementary

**Includes pre-practica field experience and must be successfully completed before entering the student teaching practicum. The student must have successfully completed three pre-practica field experiences attached to these courses. Typically, the courses used are EE 220 and two other of the courses listed above that offer a prepracticum in any given semester.*

Specific course requirements may be waived by the Elementary Education Department and the Division of

Professional Education after a student has been admitted. In accordance with College guidelines, the student must demonstrate proficiency and document relevant and successful experience.

Persons interested in the post bachelor's certification program should file application material with the Graduate School Office.

Post Baccalaureate Certification Program — Early Childhood Teacher (K-3)

The post bachelor's program is a non-degree program designed for liberal arts graduates who wish to be certified as an Early Childhood Teacher (K-3). This program has been approved by the Massachusetts Department of Education and includes certification reciprocity with signatory states under the Interstate Certification Compact. Students admitted to the program must complete the following courses:

- GS 501 Graduate Program Planning
- *EE 361 Planning and Programming for Early Childhood or
- *EE 370 Kindergarten Theory and Methods
- *EE 352 Methods in Early Childhood Mathematics
- *EE 372 Success in Beginning Reading
- EE 462 Science and Social Studies Methods in Early Childhood
- *EE 474 Methods and Materials in Early Childhood Language Arts
- EE 450 Elementary School Curriculum
- or
- EE 562 Early Childhood Curriculum — Ages 2-5
- or
- EE 563 Early Childhood Curriculum — Ages 5-7
- ED 480 Philosophy of Education
- ED 520 Psychological Foundations of Education
- SE 510 Exceptional Children in the Schools
- EE 496 Supervised Teaching in Public Schools — Early Childhood
- or
- EE 497 Supervised Teaching in Preschool

**Includes pre-practica field experience and must be successfully completed before entering the student teaching practicum.*

Specific course requirements may be waived by the Elementary and Early Childhood Education Department and the Division of Professional Education after a student had been admitted. In accordance with College guidelines, the student must demonstrate proficiency and document relevant and successful experience.

Persons interested in the post bachelor's certification program should file application material with the Graduate School Office.

Master of Education in Elementary Education

This program is designed for certified teachers grades one through six. All accepted students must enroll under the direction of their advisor in GS 501 Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue. As part of their program, students must satisfactorily complete the following curriculum:

1. Research Methods and Findings: GC 500 Research and Evaluation — 3 graduate credits.
2. Humanistic and Behavioral Studies: Consult *Graduate Program Requirements — Master of Education* in the Graduate School section of this catalogue — 6 graduate credits.
3. Departmental Concentrations: Students must elect one of the following options or concentrations (minimum of 21 graduate credits):

A. Individualized Program of Study

Students who are currently certified in elementary education elect courses in consultation with a program advisor which meet their academic and professional objectives. Students must include in their program EE 450 Elementary School Curriculum and EE 554 Graduate Seminar in Elementary Education.

B. Concentration in Computers in Education

Designed for teachers, administrators, and other K-6 professionals who wish to develop an understanding of and skills in the use and application of computers in education. Students must complete EE 468 Introduction to Computers for the Elementary School Classroom, EE 578 Educational Software Development and Computer Applications I, EE 580 LOGO for the Microcomputer in the Elementary Classroom, and a minimum of 12 approved credits in areas such as computers in education, computer science and instructional media.

For additional information relative to the M.Ed. in Elementary Education, students not yet accepted should consult with the program's coordinator.

Master of Education in Early Childhood Education

This program is designed for persons who wish to pursue an advanced degree in early childhood education (including grades kindergarten through three) in association with careers in public schools, non-public preschools, Head Start Centers, day care centers, and other human service agencies.

All accepted students must enroll under the direction of their advisor in GS 501 Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue. As part of their program, students must satisfactorily complete the following curriculum:

1. Research Methods and Findings: GC 500 Research and Evaluation — 3 graduate credits.
2. Humanistic and Behavioral Studies: Consult *Graduate Program Requirements — Master of Education* in the Graduate School section of this catalogue — 6 graduate credits.
3. Departmental Requirements: EE 450 Elementary School Curriculum or EE 562 Early Childhood Curriculum — Ages 2-5 or EE 563 Early Childhood Curriculum — Ages 5-7 and EE 575 Graduate Seminar in Early Childhood Education — 6 graduate credits.
4. Program Electives: Courses approved by the advisor which meet the academic and professional objectives of the student — 15 or more graduate credits.

Master of Education in Elementary School Mathematics

The Department, in conjunction with the Department of Mathematics, offers a program leading to the degree of Master of Education in Elementary School Mathematics. This program is designed for teachers certified in Elementary Education. All candidates for the degree are required to take a minimum of 21 credits of content courses in mathematics as a combined total of undergraduate and graduate work. At least nine of these credits must be taken at the graduate level. A designated member of the Mathematics Department will advise each degree applicant upon entry into the program with regard to the mathematics courses which he or she should take. A permanent advisor to the candidate shall be assigned from the Department of Elementary Education. Degree candidates who have not had at least 6 semester hours of introductory modern mathematics must take MA 107 and/or MA 108 College Mathematics for Elementary Majors I-II. Candidates must also have taken EE 350 Methods and Materials in Elementary School Mathematics. It should be noted that these three courses may not be offered as credit toward the minimum 30 credits required for the degree.

All accepted students must enroll under the direction of their advisor in GS 501 Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue. As part of their program, students must satisfactorily complete the following curriculum:

1. Research Methods and Findings: GC 500 Research and Evaluation — 3 graduate credits.
2. Humanistic and Behavioral Studies: Consult *Graduate Program Requirements — Master of Education* in the Graduate School section of this catalogue — 6 graduate credits.
3. Departmental Requirements: EE 351, EE 550, 9 graduate credits in mathematics — 15 graduate credits.
4. Program Electives: Education and/or mathematics courses appropriate to the degree program and approved by the advisor — 6 or more graduate credits.

For additional information relative to this program, students not yet accepted should consult the program coordinator.

Reading Services Committee

Professors: Bizinkauskas, Deasy,
Dickinson, Draheim

Associate Professor: Deckers (Committee Coordinator)

Master of Education in Reading

The program is designed to prepare experienced teachers for positions as consulting teachers of reading (kindergarten through grade twelve), and has been approved by the Massachusetts Department of Education. This includes certification reciprocity with signatory states under the



Interstate Certification Compact. Only those who have completed one year of successful full-time classroom teaching in an accredited school will be considered for admission to the program. Applicants must file the Graduate School form *Certificate of Teaching*. A minimum of thirty-six approved degree credits is required in this degree program.

All accepted students must enroll under the direction of their advisor in GS 501 Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue. As part of their program, students must satisfactorily complete the following curriculum:

1. Humanistic and Behavioral Studies: Consult *Graduate Program Requirements — Master of Education* in the Graduate School section of this catalogue — 6 graduate credits.
2. Departmental Requirements (which provide the theory, content, and professional practice of the specialty):
 - EE 530 Enhancing Language Skills in the Classroom
 - EE 540 Improving Reading Instruction
 - EE 541 Diagnosis and Correction of Reading Disabilities I
 - EE 542 Diagnosis and Correction of Reading Disabilities II
 - EE 544 Seminar in Reading and
 - EE 555 Supervision and Administration of Reading ProgramsTotal: 18 graduate credits.

3. Research Methods and Findings: This program requirement will be met through research components in four of the professional courses listed above (EE 540 Improving Reading Instruction, EE 541 Diagnosis and Correction of Reading Disabilities I, EE 542 Diagnosis and Correction of Reading Disabilities II, EE 555 Supervision and Administration of Reading Programs).
4. Program Electives: Courses in reading and/or related fields, approved by the advisor, which meet the academic and professional objectives of the student — 3, 6 or more graduate credits.
5. Practica in Reading: the equivalent of a half-semester practicum is required for certification as a consulting teacher of reading. Students in this graduate program seeking certification as consulting teachers of reading must fulfill the requirements for clinical and supervisory components of the practicum. The program has several options which have been developed to meet the requirements of state certification while providing for the different professional circumstances of the student. These options should be discussed with the student's advisor — 6-9 graduate credits.
6. Students not seeking certification may substitute appropriate electives for these practica.

For additional information relative to this program, students not yet accepted should consult with the Committee Coordinator of the program.

The departmental offerings listed below include the following courses which may not be taken for graduate degree credit:

- EE 220 Introduction to Strategies of Teaching
- EE 230 Introduction to Early Childhood Education
- EE 300 Elementary Art Methods
- EE 330 Teaching Reading in the Elementary School
- EE 331 Developmental Reading in the Secondary School
- EE 340 Methods and Materials in Elementary Language Arts
- EE 350 Methods and Materials in Elementary School Mathematics
- EE 352 Methods in Early Childhood Mathematics
- EE 361 Planning and Programming for Early Childhood
- EE 372 Success in Beginning Reading
- EE 420 Educational Measurement
- EE 436 Remedial Reading Techniques for Classroom Teachers
- EE 454 Seminar in Elementary Education (undergraduate)
- EE 460 Methods and Materials in Elementary Science
- EE 470 Methods and Materials in Elementary Social Studies
- EE 474 Methods and Materials in Early Childhood Language Arts
- EE 475 Seminar in Early Childhood Education (undergraduate)
- EE 499 Directed Study in Elementary Education



Course Offerings*

EE 100 Effective Reading (2 crs.)

A developmental course dealing with efficient and effective approaches to reading and studying skills at the college level. Emphasis is placed on reading rate comprehension, skimming, study habits, memory training, testing techniques and vocabulary development. Reading effectiveness is built up through the teaching of thorough previewing, rapid reading, and concise note taking. *Either semester*

EE 101 Speed Reading (1 cr.)

A developmental course designed to increase both speed and comprehension in a wide variety of materials. Emphasis is placed on developing a range of reading rates for different purposes. Techniques introduced include study reading, skimming, and article reading. A semester course meeting three times weekly. *Either semester*

EE 220 Introduction to Strategies of Teaching (3 crs.)

Taken by sophomore elementary majors as their first course in professional education. Observation of elementary age children in a classroom setting, opportunity for working with such children, confirmation of the choice of teaching as a career and the beginning of the development of skills needed to be a successful teacher. Students will be apprised of both current issues and problems faced by teachers in the public schools. All types of possible classroom teaching strategies will be presented and discussed fully. In addition to 3 class hours there is a 3-hour block of time per week set aside for field work. *Either semester*

EE 230 Introduction to Early Childhood Education (3 crs.)

Survey of Early Childhood Education programs in relation to historical perspectives, philosophical foundations and sociological factors. Students will investigate and evaluate Head Start, Day Care Services, Montessori, Nursery School, Kindergarten and Primary Grades. Opportunities will be provided for field experiences. In addition to three class hours, there is a three-hour block of time per week set aside for field work. *Either semester*

EE 300 Elementary Art Methods (½ crs.)

An introduction to methods and materials in art for the elementary teacher. Art projects typical of those done by children in grades K-6 are produced. Classroom management, bulletin board design, and lesson introduction techniques are explored. *Either semester*

EE 330 Teaching Reading in the Elementary School (3 crs.)

A consideration of the teaching/learning process involved in effecting mastery of skills; guiding the transfer of these skills as children read; promoting voluntary, independent reading; and assessing needs and monitoring progress. *(Prerequisite: PY 100) Either semester*

EE331 Developmental Reading in the Secondary School (3 crs.)

The techniques used to develop reading skills in the secondary school, evaluation of the modern reading materials available, a study of techniques used to analyze students' reading needs and a survey of administration of reading programs in the secondary school with implications for teachers as well as administrators. *Offered only through the Program of Continuing Education*

EE 333 Strategies of Teaching Reading in the Middle School (3 crs.)

The course, Strategies of Teaching Reading in the Middle School, is designed to teach the instructional models in reading necessary to aid the middle school child in the acquisition of vocabulary and skill competence. Processes for the guiding of the transfer of these skills to silent and oral reading will be taught. *Either semester*

EE 340 Methods and Materials in Elementary Language Arts (3 crs.)

Strategies in the elementary school to enhance the communication skills of reading, writing, listening, and speaking through pupil involvement in purposeful communication will be stressed. Special emphasis will be given to the teaching of writing and to the development of thinking skills through questioning. *(Prerequisite: PY 100) Either semester*

EE 341 Strategies of Teaching Language Arts in the Middle School (3 crs.)

Strategies to enhance the communication skills of reading, writing, listening, speaking, through pupil involvement in purposeful communication will be stressed. Special emphasis will be given to the teaching of writing and to the development of thinking skills through questioning. *Either semester*

EE 350 Methods and Materials in Elementary School Mathematics (3 crs.)

Examining the purpose and content of the contemporary elementary school mathematics curriculum, this course emphasizes how children learn mathematics, a wide variety of teaching procedures and instructional materials, evaluation techniques for use in the classroom, and pedagogical methodology for individualization. Designed also to create awareness of affective experiences in the teaching/learning process of elementary school mathematics. *(Prerequisite: PY 100 and MA 107) Either semester*

EE 351 Improving Mathematical Instruction in the Elementary School (3 crs.)

Appraisal of current mathematics programs, evaluation of individual pupils with a class, consideration of current instructional procedures and materials designed to provide for individual differences. *(Prerequisite: EE 350) Offered only through the Program of Continuing Education*

EE 352 Methods in Early Childhood Mathematics (3 crs.)

A methods course in the teaching of mathematics to the 3-8 year old child. Basic psychological structures relating to mathematics and current research on mathematics learning will set the background for investigation and rationalization for what should be taught at this level. Skills in student assessment and teaching strategies will be developed. *(Prerequisite: EE 230) Either semester*

EE 353 Strategies of Teaching Mathematics in the Middle School (3 crs.)

Designed to present to the participant a view of the current middle school mathematics curriculum, this course shall emphasize how students learn mathematics, appropriate pedagogical and methodological techniques, evaluation procedures for use in the classroom, and techniques for individualization to allow for meaningful learning of mathematical skills and concepts. Emphasis is also placed upon participant awareness of affective as well as cognitive experiences in the middle school mathematics process. *Offered only through the Program of Continuing Education.*

EE 361 Planning and Programming for Preschool (3 crs.)

Presentation of a comprehensive view of preschool today including developmental characteristics of young children, planning the environment, programming, licensing, staffing, community involvement, and parent relationships. Opportunities for field observations will be provided. Required for those students wishing to student teach in a preschool setting. *Either semester*

*See pages 66-67 for general information regarding course offerings.

EE 362 Methods and Materials in Elementary Art (3 crs.)

The objective of art education, role of the classroom teacher, developmental stages in the creative growth of children; materials, processes, tools and teaching procedures which will foster this growth at the various grade levels; correlation of art with other subject fields and evaluation of student progress. *Offered only through the Program of Continuing Education*

EE 370 Kindergarten Theory and Methods (3 crs.)

The philosophy of modern kindergarten education including exploration of contemporary theories and strategies. Developmental characteristics and learning styles of the young child are studied and related to initial school experiences. Curriculum strategies and materials are examined and evaluated. Opportunities to observe the kindergarten child will be provided. *(Prerequisite: PY 100) Offered only through the Program of Continuing Education*

EE 371 The Preschool (3 crs.)

Current emphasis on the schooling of young children in a preschool setting is the direction of this course. The psychological, physical, and emotional norms of this age group are explored. Current materials available to the teacher are examined. Recommended for those interested in the very young preschool and kindergarten teaching. *(Prerequisite: PY 100) Offered only through the Program of Continuing Education*

EE 372 Success in Beginning Reading (3 crs.)

Early Childhood majors are provided an opportunity to develop the understandings and skills needed to (1) teach print-processing skills, (2) provide guided reading experiences, and (3) promote voluntary, independent reading. The factors that contribute to success in beginning reading are examined in depth. *Either semester.*

EE 373 Helping Children to Write Creatively (3 crs.)

Conducted in a positive atmosphere of support, encouragement and fun, this practical and intensive course employs a workshop format and is aimed at helping teachers to prepare creatively for a classroom emphasis on writing fluency and skill development. Participants are requested to bring a few favorite selections of children's literature. When offered as a one-week full-time workshop, participants may have until two weeks after the end of workshop sessions to complete course requirements. *(Prerequisite: A Reading or Language Arts course) Offered once every three years*

EE 390 Field Based Practicum (6 crs.)

Community Public Schools serve as laboratories in which students engage in observation and participation in the teaching/learning process. Through active participation with the cooperating teacher the student will demonstrate an ability to sequence meaningful learning activities for individuals, small groups and total class instruction. The student teacher becomes an integral participant in the school community by gradually assuming the obligations of the classroom teacher. Throughout this experience the cooperating teacher and student teacher engage in a continuous evaluative dialogue which is designed to identify areas of strength and weakness so that alternative strategies might be employed to enhance the student's professional growth. *(Prerequisite: PY 100, EE 220, and acceptance and good standing in Teacher Preparation Program) Offered only by arrangement with department (please consult department chairperson)*

EE 420 Educational Measurement (3 crs.)

Procedures for developing and evaluating classroom teacher-made tests and a survey of standardized testing practices used in the K-12 program. Emphasis will be placed on the student's intended area and/or level of concentration. *Either semester*

EE 435 Teaching Study Skills and the Uses of Reading (3 crs.)

Opportunities open to classroom teachers for promoting voluntary reading through individualized reading, classroom specialties and curricular related research projects. Consideration of the ways in which teachers can guide pupils to apply their basic reading skills as they study content subjects, locating, selecting, organizing information, preparing reports, setting their own purposes for reading. *Either semester*

EE 436 Remedial Reading Techniques for Classroom Teachers (3 crs.)

Experience in analyzing learning needs, preparing remedial plans, and providing highly motivated, intensive instruction to overcome specific weaknesses. Testing and tutoring experiences with elementary children. Two lecture and two laboratory periods weekly. *(Prerequisite: EE 330 or SE 336 or permission of the Instructor) Offered alternate years*

EE 441 Methods & Materials in Outdoor Education for the Elementary Teacher (3 crs.)

New trends and practices in Elementary Curriculum and methods in outdoor education will be explored in a natural setting. Analysis of different approaches to curriculum construction, teaching procedures, integration of material to classroom and school setting will be implemented. *Offered only through the Program of Continuing Education.*

EE 442 Methods and Materials in Outdoor Education II (3 crs.)

A two-phase program including two in-house weekend workshops. The course will deal with the process of individually researching, designing, and developing outdoor education projects for elementary and high school children. An emphasis will be on ocean studies and wilderness experiences. *Offered only through the Program of Continuing Education*

EE 450 Elementary School Curriculum (3 crs.)

Roles of the administrator, the teacher, the parent and the child in the development of the changing curriculum in the elementary school. Use of action research, in-service training, innovations for curriculum improvement, school organizations, team teaching, the non-graded school, individualized instruction, the reevaluation of objectives and democratic values. *(Prerequisite: PY 100) Offered only through the Program of Continuing Education*

EE 452 Methods and Materials in Elementary Education (3 crs.)

Effective ways of vitalizing the teaching/learning process through teacher-pupil planning, participation and evaluation. Emphasis on creative teaching and the individualized approach. Materials and strategies are examined in the light of current issues. *(Prerequisite: PY 100) Offered only through the Program of Continuing Education*

EE 454 Seminar in Elementary Education (3 crs.)

A culmination of all professional experiences in preparation for teaching. Included are review and evaluation of current elementary school practices, discussion of professional ethics and school law, professional growth opportunities, procedures for securing a teaching position, and preparation for and the responsibilities of the first teaching position. Open to all senior elementary majors or by permission of the Chairperson. *Offered only through the Program of Continuing Education*

EE 455 Drug Education for the Elementary School Teacher (3 crs.)

Prevention of drug abuse is the chief purpose of the course. How to acquaint elementary teachers with the causes and cure of the problem. A review of current methods and materials in drug education will be featured. *Offered only through the Program of Continuing Education.*

EE 456 Current Issues in Elementary Education (3 crs.)

This course focuses on influential issues in contemporary education. Specific emphasis is placed on the following topics: financial problems; moral and ethical considerations; interplay of educational techniques; the teacher as a person and a professional; the role of the school as a change-agent in society. *(Prerequisite: PY 100 and 9 hours in Education)* Offered only through the Program of Continuing Education

EE 457 Strategies for Managing Classroom Behavior (3 crs.)

This course will assist education students in developing their skills in classroom management. Consideration will be given to successful management models and teaching strategies as they apply to the developmental levels of children. *(Prerequisite: PY 100 or permission of the Instructor)* Offered through Program of Continuing Education only

EE 460 Methods and Materials in Elementary Science (3 crs.)

Goals of elementary school science instruction and the methods of attaining them through "newer" science programs, problem solving, experimentation, and varied instructional media are examined. *(Prerequisite: PY 100)* Either semester

EE 462 Science and Social Studies Methods in Early Childhood (3 crs.)

The goals of scientific inquiry and responsible citizenship. The establishment of objectives and the selection of appropriate methods, materials, and techniques of planning to meet these objectives. Current trends in the teaching of both science and social studies. Innovative ideas found in the newer programs. *(Prerequisite: PY 100)* Either semester

EE 468 Introduction to Computers for the Elementary School Classroom (3 crs.)

Designed as a computer literacy course for K-6 pre-service teachers, in-service teachers, and supervisory personnel. The course covers the history, capabilities, role, and literacy in computer education. Early childhood and elementary school applications are to be explored in a computer laboratory setting. No prior knowledge or experience with computers is assumed. Either semester

EE 470 Methods and Materials in Elementary Social Studies (3 crs.)

Emphasis is placed on current trends including objectives, curriculum, creative pupil-teacher planning, teaching techniques involving extensive use of instructional media and study tours of New England. *(Prerequisite: PY 100)* Either semester

EE 473 Improving Elementary School Social Studies (3-6 crs.)

The intent of this course is to develop with the student a series of strategies, affective as well as cognitive, that combine the best elements of the teaching-learning experience in elementary school social studies. The newest trends and practices in social studies curriculum and methodology are explored in a laboratory context. Offered only through the Program of Continuing Education

EE 474 Methods and Materials in Early Childhood Language Arts (3 crs.)

Ways of teaching young children with a focus on language arts strategies and materials. Learning theories and methods of individualization stressing the child as a unique individual. Emphasis on classroom organization and the use of innovative teaching techniques. *(Prerequisite: PY 100)* Either semester

EE 475 Seminar in Early Childhood Education (3 crs.)

Study of problems and issues related to the education of young children. Emphasis will be placed on current research, learning theories, curricular and methodological concerns. Each student will make an extensive study of a significant issue related to Early Childhood Education. Offered only through the Program of Continuing Education

EE 490 Supervised Teaching in the Elementary Schools — Art (7½ crs.)

Supervised experiences in classroom art activities. Experiences gained in teaching techniques, materials, individual differences, and classroom management. Supervision by the cooperating teacher and college supervisor. Full time for one quarter. *(Prerequisite: Acceptance and good standing in Teacher Preparation Program)* Either semester

EE 491 Internship in Elementary Education (7½ crs.)

A minimum of 300 clock hours will be required in a grade 1-6 setting as an elementary teacher. Internship must be less than full time but at least 1/5 time employment as an elementary school teacher. Request for this course must be made to Professional Education Office. *(Prerequisite: Consent of the Department)*

EE 492 Supervised Teaching in Public Schools — Elementary (7½ or 15 crs.)

Supervised experiences in classroom activities. Experiences gained in teaching techniques, individual differences and classroom management. Opportunities available in a variety of instructional environments. Supervision by the cooperating teacher and college supervisor. Full time for either one quarter or a full semester. *(Prerequisite: Acceptance and good standing in Teacher Preparation Program)* Either semester

EE 493 Internship in Early Childhood Education (7½ crs.)

A minimum of 300 clock hours will be required in an N-3 grade setting as an early childhood teacher. Internship must be less than full time but at least 1/5 time employment as an early childhood teacher. Request for this course must be made to Professional Education Office. *(Prerequisite: Consent of the Department)*

EE 496 Supervised Teaching in Public Schools — Early Childhood (7½ or 15 crs.)

An eight or fifteen week field experience at the K-2 level under the guidance of a cooperating teacher and a college supervisor. Opportunities for participation in pupil observation, program planning and utilization of contemporary teaching strategies. Either semester

EE 497 Supervised Teaching in the Preschool (7½ crs.)

Supervised student teaching experience in a preschool setting with children, infancy through age five. Emphasis on development, implementation and evaluation of innovative preschool programs. The student participates in a total program, five days a week for eight weeks in either Day Care Center, Nursery School or Head Start Program. Either semester

EE 498 Internship in Elementary or Early Childhood Education (3-15 crs.)

Off-campus experience in area related to the major. In-depth exposure to educational programs, centers and institutions. This internship does not lead to teacher certification. *(Prerequisite: Consent of the Department)*

EE 499 Directed Study in Elementary Education (1-3 crs.)

Open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. *(Prerequisite: Consent of the Department)* Either semester

EE 502 Research (credit to be arranged)

Original research undertaken by the graduate student in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

EE 503 Directed Study (credit to be arranged)

Designed for the graduate student who desires to study selected topics in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

EE 530 Enhancing Language Skills in the Classroom (3 crs.)

The intent of the course will be to: 1. heighten teacher perception of communication potential in the classroom, 2. suggest techniques for the use of language skills as the vehicle in all content areas, 3. assist the teacher in the design of materials to fit special needs of the classroom, 4. aid the teacher in the classroom implementation of the designed materials.

EE 540 Improving Reading Instruction (3 crs.)

Classroom practitioners identify behaviors that are demonstrated by good readers, analyze the factors in teaching that affect these behaviors and develop plans for modifying instruction. (Prerequisite: EE 330, EE 331, or equivalent basic course in the teaching of reading)

EE 541 Diagnosis and Correction of Reading Disabilities I (3 crs.)

Designed to prepare both elementary and secondary remedial reading teachers. Part I of this sequence will emphasize the identification of students with reading difficulties, formal and informal diagnostic procedures, and theories of causation. (Prerequisite: EE 540 or permission of the Instructor)

EE 542 Diagnosis and Correction of Reading Disabilities II (3 crs.)

In Part II, attention will be focused on the development of remedial plans, provision of highly motivated instruction to overcome indicated weaknesses, and problems encountered in organizing and administering remedial programs. (Prerequisite: EE 541 or permission of the Instructor)

EE 543 Effective Reading Programs (3 crs.)

Current and evolving practices and programs in the teaching of reading. Teachers, reading specialists and administrators will be helped to develop practical plans for insuring that their own reading programs successfully meet the needs of all their students. (Prerequisite: 9 graduate credits in reading or permission of the Instructor)

EE 544 Seminar in Reading (3 crs.)

An intensive and in-depth review of major issues in reading education. Current trends and research are examined, and classroom applications are explored through individual and group activities. (Prerequisite: 18 credits toward the M.Ed. in reading with a minimum of 9 credits in reading, or permission of the Instructor)

EE 545 Clinical Practicum in Remedial Reading (6 crs.)

Qualified graduate students work with school pupils assessing instructional needs, diagnosing learning difficulties, and providing high-intensity, well-motivated instruction. (Prerequisite: Permission of Advisor)

EE 546 Supervisory Practicum in Reading Services (6 crs.)

Candidates assume a leadership role in a school setting as they assist teachers to plan improvements in reading programs to meet teachers' assessed needs. (Prerequisite: Permission of Advisor)

EE 547 Internship in Reading (3 or 6 crs.)

Offers qualified graduate students in reading an alternative means of satisfying the practicum requirements for State certification for Consulting Teacher of Reading. (Prerequisite: Permission of Advisor)

EE 549 Reading in the Content Areas (3 crs.)

Designed in a workshop format to have students use their own textbooks to develop exercises which aid children in processing content print. Vocabulary strategies, directed reading processes, skill acquisition lessons, study guides, and levels of questioning are analyzed and utilized as they apply to the different content material.

EE 550 Advanced Research Topics in Elementary School Mathematics (3 crs.)

Students accepted will pursue an individualized program of advanced study and research, focused on a substantive topic pertaining to the elementary school mathematics program, and eventuating in an acceptable documented report. Periodic meetings will be scheduled by the instructor. Each student's program must be approved by the instructor and the department chairperson. (Prerequisite: Completion of or enrollment in all other required courses in the degree program)

EE 551 Discovering Science — Current Elementary School Science Programs (3 crs.)

Provides students with opportunities to explore the philosophy, psychology, materials, and methods of implementation of the inductive programs for elementary science and to participate in a curriculum development process. Most resource materials used originate in current elementary science programs - Elementary Science Study, Science-A Process Approach, and the Science Curriculum Improvement Study. (Prerequisite: EE 460, EE 462 or permission of the Instructor)

EE 553 Community Resources for the Elementary School Teacher (3 crs.)

Designed to acquaint elementary school teachers with community resources in the area that may help them to meet their goals. A theme will be selected and representatives of agencies that illuminate the theme will contribute. (Prerequisite: PY 100, Teaching Certificate, or Permission of the Instructor)

EE 554 Graduate Seminar in Elementary Education (3 crs.)

An integration of formal study, current research and personal experience. Each student will make an extensive study of a significant problem in elementary teaching. (Prerequisite: 21 approved graduate credits with a minimum of 12 credits in elementary education)

EE 555 Supervision and Administration of Reading Programs (3 crs.)

A graduate course designed to provide experiences that will provide for appraisal of the components of a reading program and examine research that suggests strategies in change behavior of teachers. (Prerequisite: 9 graduate credits in reading)

EE 556 Curriculum for the Gifted Child in Elementary Schools (3 crs.)

New trends and practices in curriculum development to encourage the full development of the gifted are studied. Local, regional, state and national movements are examined. Students study curriculum problems and build a curriculum.

EE 561 Current Issues in Early Childhood Education (3 crs.)

Exploration of issues confronting the early childhood educator today. Examination of public policy issues, sex stereotyping, mainstreaming, back-to-basics, parent education, bilingual and multi-ethnic education and family structure.

EE 562 Early Childhood Curriculum - Ages 2-5 (3 crs.)

Provides students with opportunities to explore all aspects of pre-school and kindergarten program curricula. Course focuses on planning and implementing curriculum in readiness skills, language development and communication arts. Observation and participation field component included.

EE 563 Early Childhood Curriculum - Ages 5-7 (3 crs.)

For students interested in planning teaching strategies for primary grades. Course explores language arts, math, science, social sciences and classroom management. Observation and participation field component included.

EE 564 Administration of Early Childhood Programs (3 crs.)

Attention is given to administration of various early childhood settings with emphasis on state licensing regulations, staff development, physical planning, budget matters, program evaluation and home-school relationships. Discussions, reading and role playing are used.

EE 565 Math Anxiety: Theories and Principles for Elementary School Personnel (3 crs.)

A comprehensive study of mathophobia. The course content, ideas, and materials promote awareness of math anxiety and of those obstacles that math avoidance creates. Emphasis on techniques and strategies in reducing math anxiety for children. For elementary school teachers, administrators, and other interested personnel.

EE 568 Systematic Training for Effective Teaching (3 crs.)

Systematic Training for Effective Teaching (STET) is a packaged program designed to help teachers increase effectiveness in motivating, encouraging, communicating, disciplining, leading groups, meeting special needs, and involving parents. STET promotes a democratic classroom environment where choices are clear, discipline is logical, and self-discipline is encouraged. (*Prerequisite: Bachelor's degree and teaching certificate*)

EE 572 Strategies of Teaching Reading in the Middle School (3 crs.)

Designed to teach the instructional models in reading necessary to aid the middle school child in the acquisition of vocabulary and skill competence. Processes for the guiding of the transfer of these skills to content area reading will be taught. (*Prerequisite: Bachelor's degree and teaching certificate*)

EE 573 Developing Elementary School Curriculum (3 crs.)

This course will organize its members into a curriculum committee and will, by democratic group process, prepare an elementary curriculum guide for a specific subject or subject area. Most of the resource materials used in the guide will originate in various current elementary programs. Each participant will receive a copy of the finished guide.

EE 575 Graduate Seminar in Early Childhood Education (3 crs.)

A study of problems and issues related to the education of young children. Emphasis will be placed on current research, learning theories, curricular and methodological concerns. Each student will make an extensive study of a significant issue related to Early Childhood Education.

EE 578 Educational Software Development and Computer Applications I (3 crs.)

An introduction to computer programming and to the BASIC language as it relates to the development of educational software. Significant hands-on experience with computers. As a final project, students will develop software for classroom application. (*Prerequisite: EE 468 or permission of the Instructor*)

EE 579 Educational Software Development and Computer Applications II (3 crs.)

An advanced course in educational software development which focuses on high resolution graphics on the Apple II computer. Students develop several software packages for direct application in the classroom. Students interested in grades K-6 should register for EE 579. Those interested in grades 7-12 should register for ED 579. (*Prerequisite: EE/ED 578 or consent of the Instructor*)

EE 580 LOGO for the Microcomputer in the Elementary Classroom (3 crs.)

LOGO is the programming language used by elementary students; one of its primary functions is to develop problem-solving skills. This course provides an overview of the history and philosophy of LOGO, practical application of the language's fundamental ideas, and covers classroom implementation. Designed for K-6 teachers and supervisory personnel. (*Prerequisite: EE 468 or consent of the Instructor*)

EE 581 LOGO II and Educational Applications (3 crs.)

This course further extends participants' knowledge of the LOGO microcomputer programming language as it applies to classroom use. Topics covered include: intermediate and advanced text processing; advanced graphics; other recursions; further use of utilities programs such as shape editing, music, and animation; and educational implementation for the teacher or supervisor. Course culminates with a major project for application use. (*Prerequisite: EE 580 or consent of the Instructor*)

EE 584 Educational Software Development: Files (3 crs.)

An advanced course in educational software development. Focuses on the Apple II computer stressing an understanding of the disk operating system (DOS), sequential, and random access files. A major portion of the course is devoted to students' developing software packages for application in the classroom. (*Prerequisite: EE 578 or consent of the Instructor*)

EE 590 Advanced Research Topics in Computer Education for the Elementary School (3 crs.)

Students accepted will pursue an individualized program of advanced study and research on a substantive topic pertaining to computers in education, eventuating in an acceptable documented treatise. Students will plan, prepare, and implement a course of personal study as it relates to the delineated topic. Included will be a defined period of time to observe and participate in an educational field or laboratory experience germane to computers in education. Periodic meetings will be scheduled with the instructor. (*Prerequisite: Completion of or enrollment in last courses of degree program*)

Department of English

Chairperson: Professor Clifford Wood
Professors: Marcia Anderson, Charles Angell,
Barbara Apstein, Thomas Curley, Harold DeLisle,
Joseph DeRocco, Charles Fanning, Joseph Liggera,
Charles Nickerson, Lois Poule, Harold Ridlon,
Paula Vadeboncoeur, Delija Valiukenas, Joseph Yokelson
Associate Professors: Michael Boyd, Grant Keener,
Judy Stanton
Assistant Professors: Leslie Angell,
Maureen Connelly, Arnold Girdharry,
Evelyn Pezzulich, William Smith
Instructors: Ann DuCille, Michael Hurley

Undergraduate Programs

Bachelor of Arts

The program of study for English majors aims to give students an acquaintance with the history and background of English and American literature, an understanding of great literary works, and the ability to analyze, interpret, and appreciate what they read. With a broad foundation in English and American literature and a firm grasp of literary principles and techniques of critical analysis, English majors have sufficient entry level skills to enter diverse careers or the preparation to pursue advanced study or training. Bridgewater State College English majors have achieved success in a wide variety of occupations including teaching, banking, law, medicine, publishing, government service, public relations, technical writing, creative writing, advertising, and business administration.

For students who wish to engage in intensive study of the literature and culture of a particular period while still fulfilling the normal course requirements for the English major, the Department offers courses in Medieval, Seventeenth Century, and Nineteenth Century language and literature. The Department also offers an Honors Program for students who wish to pursue independent study culminating in a thesis.

The English Department participates in the multidisciplinary minors in American Studies, Canadian Studies, and linguistics. For specific information on these programs, consult the catalogue section *Undergraduate Multidisciplinary and Pre-Professional Programs*.

English Major

Majors must achieve a grade of C or above in EN 101 Writing I and EN 102 Writing II.

The major must earn 36 credits in English which must include three semester hours in each of the following:

- English literature before 1800;
- English literature after 1800;
- American literature;
- a seminar.

No more than six hours of 200 level literature courses can be credited toward the major.

Students majoring in English may meet the departmental foreign language requirement by satisfying intermediate level proficiency in any foreign language approved by the department.

Writing Concentration

The Writing Concentration is designed to offer a student supervised writing throughout the college career. Students may select courses which emphasize applied writing (Technical and Business Writing), expressive or referential writing, or the teaching of writing. All students electing the Writing Concentration will be required to take EN 390 Theories of Writing.

Students will choose 12-15 credits from among the following (EN 390 must be included):

EN 200 Personal and Public Writing
EN 201 Technical Writing I
EN 202 Business Communication
EN 230 Creative Writing
EN 280 Journalism
EN 301 Writing and the Teaching of Writing
EN 302 Technical Writing II
EN 389 Topics in Writing
EN 390 Theories of Writing

English Minor

Traditionally considered the province of Liberal Arts majors, the English Minor also offers a suitable option for students majoring in such specialized technical and professional fields as Computer Science, Social Sciences, Behavioral Sciences, and Management Science. Eighteen credits in English are required with at least nine in courses above the 300 level.

Minor in High School Education

Students minoring in education must refer to the Department of High School, Middle School, and Adult Education for specific teacher certification and program requirements.

Graduate Programs

Master of Arts

The Department of English offers a program leading to the degree of Master of Arts in English. An undergraduate major in English, with at least twenty-four hours of above average work in the discipline, is normally required for admission to this program. Students with deficient academic backgrounds are sometimes accepted into the program with the stipulation that these deficiencies be made up before work actually credited to the degree begins.

Upon acceptance into the program, the student will be assigned an advisor and given copies of the brochures entitled "Graduate Study in English" and "Recommended Readings for M.A. and M.A.T. Candidates." All accepted students must enroll under the direction of their advisor in GS 501 Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue. In addition to meeting general degree requirements, the student must complete courses his advisor deems appropriate to his degree program, including at least one graduate seminar and either EN 391 Modern Literary Criticism or EN 500 Theory and Discipline of English.

The departmental offerings listed below include the following courses which may not be taken for graduate credit:

All courses in the 100 and 200 levels
EN 499 Directed Study in English.

Master of Arts in Teaching

The Department of English offers a program leading to the degree of Master of Arts in Teaching with a concentration in English, which is designed primarily to meet the varied needs of graduate students who are currently teaching at the secondary school level. Upon acceptance in the program, the student will be assigned an advisor and given copies of the brochures entitled "Graduate Study in English" and "Recommended Readings for M.A. and M.A.T. Candidates." All accepted students must enroll under the direction of their advisor in GS 501 Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue. Degree requirements include a minimum of 12 appropriate graduate credits in designated areas of professional study (consult M.A.T. degree requirements in the Graduate School section of this catalogue); and a minimum of 21 appropriate graduate credits in English, approved by the program advisor on the basis of the background, interests, and needs of the student (including EN 301 Writing and the Teaching of Writing).

The departmental offerings listed below include the following courses which may not be taken for graduate credit:

All courses in the 100 and 200 levels
EN 499 Directed Study in English.

Course Offerings*

Successful completion of EN 101, EN 102 (or their equivalent) is a prerequisite to all other English courses.

EN 101 Writing I (3 crs.)

By intensive practice in composing short expository essays, the writer will explore various techniques for discovering, developing and organizing ideas. Special attention will be given to mastering essential skills appropriate to academic writing. Satisfies the GER in Writing. *Either semester*

EN 102 Writing II (3 crs.)

Continuing to develop essential skills, the writer will learn and practice various techniques of argumentation. Special attention will be given to learning basic research skills and to integrating the ideas of others into one's own text. Emphasis will be on longer and more substantive essays and a research paper. Satisfies the GER in Writing. *Either semester*

EN 200 Personal and Public Writing (3 crs.)

Personal and Public Writing will offer the opportunity to write in a variety of personal and public forms. The pre-writing, composing, and revising stages of the writing process will be emphasized through frequent practice and instructor and peer criticism. *Either semester*

EN 201 Technical Writing I (3 crs.)

Emphasis on writing with practical applications, such as summaries, abstracts, outlines, proposals, interviews, progress reports, and a guided research paper. Subject matter is often drawn from the students' own disciplines. *Either semester*

EN 202 Business Communication (3 crs.)

Development of competence in recognition and production of business summaries and abstracts, memoranda and letters, and reports. Concerns of style, tone, arrangement, format, and information levels treated in the context of various explicit and implicit management structures. *Fall semester*

EN 211 Literary Classics of Western Civilization to 1600 (3 crs.)

Major works of Western literature from ancient times through the Renaissance will be studied. The course will encompass diverse literary forms and themes through such works as the Bible, Homeric epic, Greek drama, *The Divine Comedy*, and a Shakespearean play. Satisfies the GER in Literature. *Fall semester*

EN 212 Literary Classics of Western Civilization Since 1600 (3 crs.)

Major works of Western literature from the Renaissance to modern times will be studied. The course will encompass diverse literary forms and themes through such works as *Don Quixote*, *Condiide*, *Madame Bovary* and a play by Ibsen. Satisfies the GER in Literature. *Spring semester*

EN 214 The Classical Tradition (3 crs.)

Major Greek and Roman writers in modern English translation will be studied. Included will be such figures as Homer, Sophocles, Plato, Euripides, Cicero, and Virgil. Satisfies the GER in Literature. *Either semester*

EN 221 Major British Writers to 1800 (3 crs.)

Representative works by major British writers from the Anglo-Saxon period through the eighteenth century will be studied. Included will be such figures as Chaucer, Shakespeare, Milton, Donne and Swift. Satisfies the GER in Literature. *Fall semester*

EN 222 Major British Writers Since 1800 (3 crs.)

Representative works by major British writers of the nineteenth and twentieth centuries will be studied. Included will be such figures as Wordsworth, Keats, Tennyson, Dickens, Shaw, Yeats, Eliot and Joyce. Satisfies the GER in Literature. *Spring semester*

EN 225 The Theme of Love (3 crs.)

Various literary treatments of the theme of love will be approached through such works as the following: Chaucer, *Troilus and Criseyde*; Donne, Poetry; Shakespeare, *Romeo and Juliet*, *Anthony and Cleopatra*; Dryden, *All for Love*; Byron, *Don Juan*, *Contos I-IV*; Bronte, *Wuthering Heights*; Browning Poems; Henry James, *The American* or *The Portrait of a Lady*; Lawrence, *Sons and Lovers*; Hemingway, *A Farewell to Arms*. *Offered alternate years, Fall semester*

EN 230 Creative Writing (3 crs.)

Problems of invention, composition, form and style solved through frequent practice and criticism of professional and student models and anecdotal evidence of professional writers. May be offered in Short Fiction, Poetry, or Drama and repeated once for credit. *Offered alternate years, Spring semester*

EN 231 Major American Writers to 1865 (3 crs.)

Representative works by major American writers from the seventeenth century through the Civil War will be studied. Included will be such figures as Franklin, Poe, Emerson, Hawthorne, Melville and Whitman. Satisfies the GER in Literature. *Fall semester*

EN 232 Major American Writers Since 1865 (3 crs.)

Representative works by major American writers from the Civil War to the present will be studied. Included will be such figures as Twain, Dickinson, James, Frost, Hemingway and Faulkner. Satisfies the GER in Literature. *Spring semester*

EN 235 The Short Novel (3 crs.)

Works selected from such writers as James, Mann, Kafka, and Chekov. (*Prerequisite: Consent of the Instructor*) *Offered alternate years, fall semester*

EN 238 The Short Story (3 crs.)

The primary focus will be on the examination of the relationships between form and content in several British, American, and continental short stories. A secondary concern will be the historical development of the genre. *Either semester*

EN 241-242 Shakespeare I-II (3 crs. for each semester)

A general introduction to Shakespeare's plays set against the background of the times, representative selections from the tragedies, comedies, and histories will be studied in detail. *EN 241 fall semester, EN 242 spring semester*

EN 251 Literary Themes (3 crs.)

This course examines major literary texts from the focus of an important theme. In a given semester the course might concern itself with love, the family, madness, law, nature (as examples of particular themes) to illustrate how writers from diverse cultures and/or historical periods working with different genres shape imaginative responses to enduring themes. Satisfies the GER in Literature. *Either semester*

EN 252 Literary Types (3 crs.)

This course examines major literary texts from the perspective of one genre or type. The course will focus on major presentations of either the novel, drama, epic, lyric, short story, tragedy, comedy, biography or narrative. Works from diverse cultures and/or historical periods will be used to illustrate how conventions of type or genre shape a writer's discourse. Satisfies the GER in Literature. *Either semester*

*See pages 66-67 for general information regarding course offerings.

EN 261 Film Study: Introduction to the Art (3 crs.)

The course will provide the student with a critical evaluation of major American and foreign films and directors from the silent era to the present. The study will be directed toward developing in the student standards of critical awareness and esthetic appreciation. In addition to film viewing, there will be readings in film theory, interpretation, and criticism. Does not satisfy literature G.E.R. *Offered once in three years, Fall semester*

EN 262 Film Study: Literature and Film (3 crs.)

The course will focus on the way in which literature is adapted to film. Viewing and reading works in both media will be required. Does not satisfy literature G.E.R. *Offered once in three years*

EN 280 Journalism (3 crs.)

Students will be helped to develop skills in copyediting and proof-reading with special emphasis given to objective news story writing. Some attention will be given to dramatic criticism and sports writing. The workshop approach will be used. Does not satisfy literature G.E.R. *Either semester*

EN 301 Writing and the Teaching of Writing (3 crs.)

Designed for prospective teachers, this course undertakes an investigation of current research in creativity and the writing process with application made to the student's own writing, school curriculum, and good teaching practice. *Offered once in three years, spring semester.*

EN 302 Technical Writing II (3 crs.)

This course provides instruction in the writing of in-depth reports and proposals requiring sophisticated data gathering and analysis. Specific attention will be paid to audience analysis and formatting. *Spring semester.*

EN 309 Early American Literature (3 crs.)

The course will focus on selected readings from Colonial beginnings through James Fenimore Cooper. *Offered alternate years, Fall semester*

EN 310 The Afro-American Novel (3 crs.)

This course is a chronological study of the Afro-American novel from 1853 to the present, with particular attention to the social, political, economic, and cultural factors that have shaped that fiction. Reading selections will include William Wells Brown, *Clotel*; Jean Toomer, *Cane*; Zora Neale Hurston, *Their Eyes Were Watching God*; Richard Wright, *Native Son*; James Baldwin, *Go Tell It on the Mountain*; Ralph Ellison, *Invisible Man*; Toni Morrison, *Song of Solomon*; Alice Walker, *The Color Purple*. *Offered alternate years, Spring semester*

EN 312 Modern British Fiction (3 crs.)

This course will focus on earlier twentieth-century British novelists such as Conrad, Forster, Lawrence, Joyce, and Woolf. *Offered once in three years.*

EN 320 Chaucer (3 crs.)

This course provides an introduction to Chaucer's poetry and Middle English through readings in the *Canterbury Tales*. *Offered once in three years.*

EN 321 The Age of Pope (3 crs.)

The literature of the neo-classical period, with emphasis on the works of Pope, Swift, Gay, Addison and Steele. *Offered alternate years*

EN 322 The Age of Johnson (3 crs.)

The writings of several major figures, such as Johnson, Boswell, Fielding, Richardson and others. *Offered alternate years*

EN 323 Introduction to Linguistics (3 crs.)

The generative-transformational theory of syntactic structure as applied to the English language. Selected readings on various aspects of linguistics. Does not satisfy literature G.E.R. *Fall semester*

EN 329 Modern American Fiction (3 crs.)

This course will focus on modern American fiction. Such writers as Fitzgerald, Hemingway, Faulkner, Farrell, and others will be studied. *Offered once in three years.*

EN 330 Recent American Fiction (3 crs.)

This course will focus on short fiction and the novel since 1945. Such writers as Bellow, Didion, Mailer, McCarthy, Oates, Roth, Tyler, Updike, and Walker will be studied. *Offered once in three years.*

EN 331 U.S. Literature in the Nineteenth Century I (3 crs.)

Selected readings in Cooper, Hawthorne, Poe, Emerson, Thoreau, Whitman, Dickinson. *Offered alternate years*

EN 332 U.S. Literature in the Nineteenth Century II (3 crs.)

This course will focus on the novels and tales of Melville, Twain, Hawthorne, and James. *Offered once in three years.*

EN 333 Realism and Naturalism in American Literature (3 crs.)

This course focuses on the fiction of Chopin, Crane, Dreiser, Howells, James, Norris, Wharton, and on the twentieth-century extensions of realism in the fiction of Cather, Anderson, Dos Passos, Stein, Farrell, and Lewis. *Offered once in three years.*

EN 338-339 Honors Tutorial (3 crs. each semester)

Special topics in English. Open to All-College and Departmental Honors students. Three hourly meetings weekly. (*Prerequisite: Consent of the Department*) *EN 338 Fall semester, EN 339 spring semester*

EN 340 Literature of the English Renaissance (3 crs.)

The non-dramatic literature of the Age of Shakespeare including the reading of works by such writers as Sidney, Spenser, Nashe, Marlowe, and Drayton. Although the emphasis will be on textual analysis, the historical, social, and cultural background of the period will also be considered. *Offered alternate years, Spring semester*

EN 341 Literature of the Continental Renaissance (3 crs.)

Selected works of Petrarch, Boccaccio, Machiavelli, Erasmus, Castiglione, Rabelais, Cellini, Montaigne, Cervantes, and Ronsard representing prevailing literary themes and techniques. Lectures and discussions on the art, history, philosophy, and music of the age will be offered by faculty in these disciplines. *Offered alternate years, Spring semester*

EN 342 Shakespeare: Histories and Comedies (3 crs.)

This course provides the student of Shakespeare with examples of Shakespeare's art in dominant Renaissance dramatic forms and with some of his recurring thematic concerns. In addition, study of the Histories and Comedies demonstrates Shakespeare's growth in the dramatic use of language. Plays for study will include the *Comedy of Errors*, *Two Gentlemen of Verona*, *Much Ado About Nothing*, *As You Like It*, *Twelfth Night*, *Richard III*, *Richard II*, *Henry IV, Parts I and II*, and *Henry V*. *Fall semester*

EN 343 Shakespeare: Tragedies and Late Plays (3 crs.)

This course offers the student of Shakespeare studies in the various dimensions of the tragic vision of man. In addition, study of the Late Plays provides the student with examples of dramatic works that proceed beyond the tragic dimension. Selected plays will include *Hamlet*, *King Lear*, *Othello*, *Macbeth*, *Anthony and Cleopatra*, *Measure for Measure*, *The Winter's Tale*, and *The Tempest*. *Spring semester*

EN 346 Southern Literature (3 crs.)

This course focuses on the personal, cultural, and social dimensions of Southern life in works by William Faulkner, Tennessee Williams, Katherine Anne Porter, Flannery O'Connor, Eudora Welty, William Styron, and Peter Taylor. *Offered once in three years.*

EN 350 Recent British Fiction (3 crs.)

This course will focus on British fiction since 1945. Writers to be studied may include Golding, Graves, Lessing, Murdoch, Greene, Ballard, and Powell. *Offered once in three years.*

EN 353 Modern European Drama (3 crs.)

Main forces in Modern European drama starting with Ibsen. *Offered alternate years, Fall semester*

EN 356 Modern American Drama (3 crs.)

Selected plays of dramatists from O'Neill to Albee. *Offered once in three years*

**EN 360-361 The English Novel I-II
(3 crs. for each semester)**

The development of the English novel, including the works of Defoe, Richardson, Fielding, Smollett, Sterne, Austen, and Scott in the first semester, and Dickens, the Brontës, Thackeray, Eliot, Trollope, Conrad, and Hardy in the second semester. *EN 360 Fall semester, EN 361 Spring semester*

EN 365 Victorian Prose and Poetry (3 crs.)

The major emphasis will be placed on the poetry of Tennyson, Browning, and Arnold, but the works of other nineteenth-century poets such as Hopkins and Hardy will also be read and discussed. The essays of Carlyle, Ruskin, Arnold, Newman, Huxley, and others will be studied in conjunction with the poetry. *Offered once in three years.*

EN 366 Tennyson, Browning, and Arnold (3 crs.)

These major nineteenth-century authors will be studied in some detail, with particular reference to the historical, social, and cultural milieu within which they wrote. *Offered alternate years, Spring semester.*

**EN 367 English Literature of the Late Victorian
and Edwardian Periods (3 crs.)**

The major writers of the late nineteenth and early twentieth centuries will be examined from aesthetic, social and intellectual vantage points, with readings in such prose writers as Gissing, James, Wilde, Beerbohm, Carroll, Wells, Hardy, Corvo, Forster, and Conrad, and such poets as Rossetti, Swinburne, Morris, Hopkins, and Yeats. *Offered once in three years*

EN 370 Seventeenth Century Literature (3 crs.)

The course is an introduction to the prose and poetry of the seventeenth century in England, exclusive of Milton. Such writers as Donne, Jonson, Bacon, Burton, Browne, and Dryden will be examined, and various persistent elements, such as the classical influence, will be explored. *Fall semester*

EN 380 Milton (3 crs.)

The main works of Milton: *Paradise Lost*, *Paradise Regained*, and *Samson Agonistes*, the minor poetic works, and selected prose. *Offered once in three years*

EN 381 Irish Literature I (3 crs.)

A survey of earlier Irish literature in translation from the Gaelic and in English. Selections from the epic poem, *Tain Bo Cuailnge*, Gaelic lyric poetry (600-1800 A.D.). The pioneering fiction of Maria Edgeworth and William Carleton. The poetry of the nineteenth-century balladeers, Thomas Moore, Thomas Davis, James Clarence Mangan, and Sir Samuel Ferguson. The accomplishments of the Irish literary revival of 1890-1920: fiction by Daniel Corkery, George Moore, Seamus O'Kelly, and James Joyce; poetry and plays by William Butler Yeats; plays by John M. Synge. *Fall semester*

EN 382 Irish Literature II (3 crs.)

A survey of later modern and contemporary Irish literature. The later fiction of James Joyce and the later poetry of William Butler Yeats. The plays of Sean O'Casey, Brendan Behan, Samuel Beckett, and Brian Friel. The poetry of Austin Clarke, Patrick Kavanagh, Thomas Kinsella, John Montague, Richard Murphy, and Seamus Heaney. The fiction of Liam O'Flaherty, Sean O'Faolain, Frank O'Connor, Flann O'Brien, Mary Lavin, William Trevor, Edna O'Brien, and others. *Spring semester*

EN 386 English Romantic Poets (3 crs.)

Selected poetry and prose of Wordsworth, Coleridge, Shelley and Keats will be studied with the principal objective of understanding the character and modes of expression of each poet's imaginative vision. Consideration will be given to historical background and to developments in philosophy and aesthetic theory which have a direct bearing on Romantic poetry. *Fall semester*

EN 389 Topics in Writing (3 crs.)

Writing on different subjects from semester to semester according to interest and demand. Typical topics may include: Writing the Research Paper, the Narrative Essay, the Personal Journal, Writing Literary Criticism, etc. *Spring semester*

EN 390 Theories of Writing (3 crs.)

Examination of fundamental rhetorical, linguistic, social, and discourse theories as they pertain to the writing process. Frequent writing will be assigned. Required of all students in the writing concentration. *Spring semester*

EN 391 Modern Literary Criticism (3 crs.)

This course will examine the major critics and critical movements of the 20th century, particularly in the United States and England, but with some attention to Continental critical thought. Critics and theorists such as T.S. Eliot, I.A. Richard, Maud Bodkin, John Crowe Ransom, F.R. Leavis, Edmund Wilson, Lionel Trilling, Northrop Frye, Susan Sontag, Raymond Williams, and Roland Barthes will be studied. The principles and methods of several kinds of criticism, formalist, Marxist, psychoanalytical, structuralist, and post-structuralist, will be examined. Required of Master of Arts Candidates. *Spring semester*

EN 393 Modern British Poetry (3 crs.)

The major British poets of the twentieth century, with particular emphasis on the works of Hopkins, Yeats, Eliot, and Thomas. *Offered once in three years, Spring semester*

EN 394 Modern American Poetry (3 crs.)

The major American poets of the twentieth century, with particular emphasis on the works of Robinson, Frost, Crane, Auden, Williams, and Stevens. *Offered alternate years, Spring semester*

EN 395 Studies in Recent American Poetry (3 crs.)

American poets practicing from 1945 to the present will be surveyed. Among these poets may be Robert Lowell, John Berryman, Theodore Roethke, Richard Wilbur, Adrienne Rich, Anne Sexton, Sylvia Plath, James Wright, Richard Hugo, Randall Jarrell, Gwendolyn Brooks, Robert Hayden, and Gary Snyder. Others may be included from time to time. *Offered once in three years, Spring semester*

EN 400 Techniques of Literary Research (3 crs.)

Research procedures, with special reference to the materials and methods of literary style and publication. Various critical approaches to literature will be examined, and some evaluation of scholarly procedure will be made. *Offered alternate years, Fall semester*

EN 410 The Writer and His Sources (3 crs.)

The Writer and His Sources will offer a practical knowledge of how literary criticism and literary history interrelate. The genesis and composition of literary texts will be considered in the light of appropriate background materials. Authors studied will vary. *Offered alternate years*

EN 440 Topics in Linguistics (3 crs.)

Various special topics of current interest in linguistics will be offered from time to time, including language change, metaphor, stylistics, non-human communication, psycholinguistics, psycholinguistics and reading, and sociolinguistics. May be taken more than once. Does not satisfy literature G.E.R. *Offered once in three years*

EN 485 Honors Thesis (3 crs.)

This course is open to All-College and Departmental Honors students. One-hour weekly meetings with the thesis director will culminate in an honors thesis. With the consent of the Departmental Honors Committee and the thesis director, this course may be extended into a second semester for three additional credits depending upon the scope of the project. Whether the final version of the thesis qualifies the student to graduate with honors will be determined by the Departmental Honors Committee. *Either semester*

EN 494 Seminar (3 crs.)

The seminar will treat selected topics in language and literature. *Either semester*

EN 495 Seminar in English Literature (3 crs.)

This seminar, primarily for seniors, honors candidates, and graduate students, will pursue in depth certain themes and authors in English literature. *Either semester*

EN 496 Seminar in American Literature (3 crs.)

This seminar, primarily for seniors, honors candidates, and graduate students, will pursue in depth certain themes and authors in American literature. *Either semester*

EN 497 Seminar in World Literature (3 crs.)

This seminar, primarily for seniors, honors candidates, and graduate students, will pursue in depth certain themes and authors in world literature, the topic changing from year to year. *Offered alternate years*

EN 498 Internship in English (3-15 crs.)

Off-campus work-study experience in areas related to the expanding discipline of English. In-depth exposure to such fields as editing, journalism, media, public relations, technical writing and the like. Effort is made through this program to expand the occupational potential of the English major. Internship credits are not applicable to the 36 credits required for the major. *(Prerequisite: Consent of the Department)* *Either semester*

EN 499 Directed Study in English (1-3 crs.)

Open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. *(Prerequisite: Consent of the Department)* *Either semester*

Other Approved Courses

EN 283-284 Major Canadian Writers in English I-II
EN 305 History of the English Language
EN 314 Medieval English Literature
EN 335 Elizabethan and Jacobean Drama
EN 397 Film Study: The Director's Art
EN 398 Film Study: Genres
EN 420 English Education Seminar

EN 500 Theory and Discipline of English (3 crs.)

This course will examine the backgrounds and techniques of scholarship in the field of literature. Some acquaintance with critical approaches to literature, as well as comprehensive experience in the major genres and periods of English and American literature, will be assumed.

EN 502 Research (credit to be arranged)

Original research undertaken by the graduate student in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

EN 503 Directed Study (credit to be arranged)

Designed for the graduate student who desires to study selected topics in his field. For details consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

EN 529 Donne and the Metaphysical Poets (3 crs.)

An intensive study of those seventeenth-century poets known as the metaphysicals: Donne, Herbert, Vaughan, Marvell and Crashaw.

EN 537 Studies in British Romanticism (3 crs.)

A study of the prose and poetry of the Romantic period, focusing on such figures as Coleridge, Wordsworth, Byron, Hazlitt, Lamb, DeQuincey, and others.

EN 541 Studies in the Novel (3 crs.)

A close reading of the major and minor works of several novelists chosen from a single period. Emphasis will be placed on the development of each novelist within a specific literary and historical context. The period under consideration will vary from year to year.

EN 543 Studies in Eighteenth-Century British Poetry (3 crs.)

A study of the development of British poetry in the eighteenth century, focusing on such poets as Pope, Gray, Thomson, Johnson, and Cowper.

EN 551 American Transcendentalism (3 crs.)

An investigation of the development and influence of American Transcendentalism in the literature of Emerson, Thoreau, Alcott, Mo, Beckett, Genet, Brecht, and other experimental and traditional playwrights.

EN 570 Graduate Seminar in American Literature (3 crs.)

An in-depth study of a particular author, group of authors, or theme in American literature. Topics will change from year to year.

EN 580 Graduate Seminar in English Literature (3 crs.)

An in-depth study of a particular author, group of authors, or theme in English literature. Topics will change from year to year.

EN 590 Graduate Seminar in World Literature (3 crs.)

An in-depth study of a particular author, group of authors, or theme in world literature. Topics will change from year to year.

Department of Foreign Languages

Chairperson: Professor Jacqueline Enos
Professors: Robert Arruda, Stanley Hamilton,
Lenore Padula, Barbara Ward
Associate Professors: Robert Briggs, Anthony Cotugno,
Joseph Giannini
Assistant Professor: Dale Dawley

Undergraduate Programs

Bachelor of Arts

The Foreign Language Department offers students an opportunity to gain practical working knowledge of one or more of six foreign languages. Students may choose any of these six languages offered by the department unless otherwise restricted by the requirements of their academic major. Students who are continuing the study of foreign languages at Bridgewater State College should do so at the earliest opportunity.

The department currently offers undergraduate majors in French or Spanish with academic minors possible in French, German, Spanish, Italian, Russian, and Portuguese. The department majors seek to develop a fluent command of the four language skills, and a broad acquaintance with the salient characteristics of the literature and civilization of the language being studied.

A grade of C or above in the 151-152 course sequence is required for continuation as a language major. Thirty-six semester hours are required for a foreign language major. Not more than one "D" for a semester course in the major shall be accepted to fulfill the requirements of the program. In the fall of the sophomore, junior and senior years, language majors will participate in a departmental interview conducted in the foreign language. This interview is for diagnostic purposes. Foreign language majors are required to take all courses in numerical sequence, unless otherwise arranged with an advisor subject to approval by the head of the department.

For all prerequisites, equivalent course credit or preparation will be accepted.

The Department of Foreign Languages participates in the multidisciplinary minors in Canadian Studies, Linguistics, and Russian and East European Studies. For specific information on these programs, consult the catalogue section *Undergraduate Multidisciplinary and Pre-Professional Programs*.

French Major

LF 151 Intermediate French I
LF 152 Intermediate French II: French for the Professions
LF 271 Patterns of the French Language
LF 272 Advanced French Composition
LF 281-282 French Civilization I-II
LF 311 Survey of French Literature I
LF 312 Survey of French Literature II
LF 371 Advanced French Conversation
LF 411 Survey of French Literature III
LF 412 Seminar in French Literature
LF 471 Extemporaneous Use of French

Spanish Major

LS 151 Intermediate Spanish I
LS 152 Intermediate Spanish II: Spanish for the Professions
LS 271 Patterns of the Spanish Language
LS 272 Advanced Spanish Composition
LS 291-292 Spanish Civilization I-II
LS 311 Survey of Spanish Literature I
LS 312 Survey of Spanish Literature II
LS 371 Advanced Spanish Conversation
LS 421 Survey of Spanish-American Literature I
LS 422 Survey of Spanish-American Literature II
LS 471 Extemporaneous Use of Spanish

Language Minor

Language minors are required to take 18 semester hours in the foreign language, which may include the 101-102 level. The choice of subsequent courses may be determined in consultation with the department head.

Minor in High School Education

Students minoring in education must refer to the Department of High School, Middle School, and Adult Education for specific requirements.

GER Foreign Language Requirements

All students must successfully complete one semester of a foreign language at the 102 level of the course. All students who continue the study of a foreign language previously studied must take the Placement Examination.

Overseas Study Opportunities

The Department of Foreign Languages urges its majors and minors to study abroad and can offer information on available study plans. Any student contemplating study abroad should consult the department with all pertinent documentation. Final acceptance of credit will be determined upon receipt of official transcripts and supporting material and, in some cases, may not be equivalent to the credits earned in a regular semester or year at Bridgewater.

Graduate Programs

Master of Arts in Teaching

The Department of Foreign Languages offers a program leading to the degree of Master of Arts in Teaching with a concentration in French or Spanish. The department requires an interview of all prospective candidates before making its final recommendation regarding admission to the program. The latter is designed primarily to meet the varied needs of graduate students who are currently teaching at the secondary school level. It also prepares students for further graduate work in foreign languages. All accepted students must enroll under the direction of their advisor in GS 501

Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue. Degree requirements include a minimum of 12 appropriate graduate credits in designated areas of professional study (consult the M.A.T. degree requirements in the Graduate School section of this catalogue), and a minimum of 18 appropriate credits in a single language (credits approved by the program advisor on the basis of the background, interests, and needs of the student). Language courses need not be taken in sequence.

In addition, appropriate courses offered by the Department may be taken as part of the Division's Master of Arts and Master of Arts in Teaching programs in Humanities.

The departmental offerings listed below include the following courses which may not be taken for graduate credit:

All courses at the 100 level

LS 495 Seminar in Spanish or Spanish American Literature

FL 300 Languages of the World

FL 499 Directed Study in Foreign Languages

Course Offerings*

Chinese

LC 101 Elementary Chinese I (3 crs.)

An introduction to elementary syntactic, semantic, phonetic and paralinguistic structures is offered. Pertinent everyday cultural concepts are discussed. Relevant comparison and contrast with the native language is treated. Functional communication in the second language in a controlled environment is the principal objective of the course. (Prerequisite: Placement Examination, for students continuing previous language study) Satisfies the GER in Foreign Language (first-semester level). Fall semester

LC 102 Elementary Chinese II (3 crs.)

The further study of elementary syntactic, semantic, phonetic and paralinguistic structures is offered. Pertinent everyday cultural concepts are discussed. Relevant comparison and contrast with the native language is treated. Functional communication in the second language in a controlled environment is the principal objective of the course. (Prerequisite: LC 101; or Placement Examination, for students continuing previous language study) Satisfies the GER in Foreign Language (second-semester level). Spring semester

English as a Second Language

LE 101 English as a Second Language I (3 crs.)

An introduction to elementary syntactic, semantic, phonetic and paralinguistic structures is offered. Pertinent everyday cultural concepts are discussed. Relevant comparison and contrast with the native language is treated. Functional communication in the second language in a controlled environment is the principal objective of the course. (Prerequisite: Placement Examination, for students continuing previous language study) Satisfies the GER in Foreign Language (first-semester level). Fall semester

LE 102 English as a Second Language II (3 crs.)

The further study of elementary syntactic, semantic, phonetic and paralinguistic structures is offered. Pertinent everyday cultural concepts are discussed. Relevant comparison and contrast with the native language is treated. Functional communication in the second language in a controlled environment is the principal objective of the course. (Prerequisite: LE 101; or Placement Examination, for students continuing previous language study) Satisfies the GER in Foreign Language (second-semester level). Spring semester

French

LF 101 Elementary French I (3 crs.)

An introduction to elementary syntactic, semantic, phonetic and paralinguistic structures is offered. Pertinent everyday cultural concepts are discussed. Relevant comparison and contrast with the native language is treated. Functional communication in the second language in a controlled environment is the principal objective of the course. (Prerequisite: Placement Examination, for students continuing previous language study) Satisfies the GER in Foreign Language (first-semester level). Fall semester

LF 102 Elementary French II (3 crs.)

The further study of elementary syntactic, semantic and paralinguistic structures is offered. Pertinent everyday cultural concepts are discussed. Relevant comparison and contrast with the native language is treated. Functional communication in the second language in a controlled environment is the principal objective of the course. (Prerequisite: LF 101; or Placement Examination, for students continuing previous language study) Satisfies the GER in Foreign Language (second-semester level). Spring semester

LF 151 Intermediate French I (3 crs.)

A review of French grammar with emphasis given to reading, writing, listening, and speaking; systematic laboratory practice. (Prerequisite: LF 102) Fall semester

LF 152 Intermediate French II: French for the Professions (3 crs.)

An introduction to the language of business and professional careers with emphasis on development of appropriate vocabulary; systematic laboratory practice. (Prerequisite: LF 151) Spring semester

LF 271 Patterns of the French Language (3 crs.)

Consideration given to writing patterns and to oral patterns with emphasis on lexicon and phonetics; systematic laboratory practice. Conducted in French. (Prerequisite: LF 152 or consent of the Instructor) Fall semester

LF 272 Advanced French Composition (3 crs.)

Practice in composition utilizing sources from the French-speaking world; systematic laboratory practice. Conducted in French. (Prerequisite: LF 152 or consent of the Instructor) Spring semester

LF 281-282 French Civilization I-II (3 crs. for each semester)

Consideration given to oral improvement through discussion of topics of French civilization through the centuries. Conducted in French. (Prerequisite: LF 152 or consent of the Instructor) LF 281 Fall semester, LF 282 Spring semester

LF 311 Survey of French Literature I (3 crs.)

Principal movements of the Middle Ages and sixteenth century, including works of Villon, Rabelais and Ronsard. Conducted in French. (Prerequisite: LF 271 or LF 272, or consent of the Instructor) Fall semester

LF 312 Survey of French Literature II (3 crs.)

Principal movements of the seventeenth and eighteenth centuries, including works of Corneille, Pascal, Moliere and Racine. Conducted in French. (Prerequisite: LF 311 or consent of the Instructor) Spring semester

LF 371 Advanced French Conversation (3 crs.)

Concentration on fluent expression in formal and informal speech; systematic laboratory practice. Conducted in French. (Prerequisite: LF 281-282 or consent of the Instructor) Fall semester

LF 411 Survey of French Literature III (3 crs.)

Principal movements of the nineteenth and twentieth centuries, including works of Balzac, Hugo, Zola, Camus, Gide and Sartre. Conducted in French. (Prerequisite: LF 311 or LF 312, or consent of the Instructor) Fall semester

LF 412 Seminar in French Literature (3 crs.)

Topics will be drawn from theme, genre, author and period. Conducted in French. (Prerequisite: LF 411 or consent of the Instructor) Spring semester

*See pages 66-67 for general information regarding course offerings.

LF 471 Extemporaneous Use of French (3 crs.)

Advanced fluency in improvised situations with emphasis on contemporary idioms; systematic laboratory practice. Conducted in French. (*Prerequisite: LF 371 or consent of the Instructor*) Fall semester

Other Approved Courses:

LF 201 French Literature of the Middle Ages
LF 211 Twentieth Century French-Canadian Writers
LF 222 Introduction to French-Canadian Literature
LF 231 Eminent Realists and Naturalists in 19th Century French Literature in English Translation
LF 241 French Literature of the Absurd in English Translation
LF 252 Sixteenth Century French Literature
LF 261 Introduction to the Civilization and Language of French Canada
LF 301 Seventeenth Century French Literature
LF 352 Eighteenth Century French Literature
LF 381 Applied French Linguistics and Phonetics
LF 382 Advanced French Composition and Grammar
LF 401 Nineteenth Century French Literature
LF 451 Twentieth Century French Literature

LF 501-502 Graduate Seminar in French Literature I-II (3 crs. for each semester)

An in-depth survey of approximately eight centuries of French Literature, with emphasis on oral and written analyses of special literary problems. Designed primarily for MAT degree candidates already having some knowledge of French literature. Conducted in French.

LF 503 Personalities in French Civilization (3 crs.)

A review of French civilization through analyses of the contributions of a selection of her national heroes. Intended for, but not necessarily limited to, holders of an undergraduate degree in French. Conducted in French. (*Prerequisite: Consent of the Instructor*)

LF 504 French Civilization Since 1944 (3 crs.)

Social, political, geographic, economic and literary dimensions of French civilization since the second World War. Conducted in French.

German

LG 101 Elementary German I (3 crs.)

An introduction to elementary syntactic, semantic, phonetic and paralinguistic structures is offered. Pertinent everyday cultural concepts are discussed. Relevant comparison and contrast with native language is treated. Functional communication in the second language in a controlled environment is the principal objective of the course. (*Prerequisite: Placement Examination, for students continuing previous language study*) Satisfies the GER in Foreign Language (first-semester level). Fall semester

LG 102 Elementary German II (3 crs.)

The further study of elementary syntactic, semantic, phonetic and paralinguistic structures is offered. Pertinent everyday cultural concepts are discussed. Relevant comparison and contrast with the native language is treated. Functional communication in the second language in a controlled environment is the principal objective of the course. (*Prerequisite: LG 101; or Placement Examination, for students continuing previous language study*) Satisfies the GER in Foreign Language (second-semester level). Spring semester

LG 151-152 Intermediate German I-II (3 crs. for each semester)

A systematic review of basic German grammar. Graded reading selections and an introduction to aspects of German culture. (*Prerequisite: LG 102*) LG 151 Fall semester, LG 152 Spring semester

LG 191-192 Scientific German I-II (3 crs. for each semester)

An introduction to the reading and translating of scientific material. Open to science majors as a substitution for LG 151, 152. (*Prerequisite: LG 102*) LG 191 Fall semester, LG 192 Spring semester

LG 282 German Conversation and Civilization (3 crs.)

Designed to develop further the student's command of spoken German. Discussion topics will center upon aspects of German civilization and culture. Conducted in German. (*Prerequisite: LG 182*) Offered alternate years, Fall semester

Other Approved Courses:

LG 181-182 Advanced German I-II
LG 201-202 Survey of German Literature I-II
LG 262 German Life and Literature under Hitler in English
LG 272 Aspects of German Culture and Civilization in English
LG 301 Modern German Literature
LG 310 The Modern German Novel in English Translation
LG 320 Contemporary German Drama in English Translation
LG 330 Major German Writers in English Translation
LG 340 The German Novella in English Translation
LG 351 German Romanticism
LG 460 Seminar in German Literature

Italian

LT 101 Elementary Italian I (3 crs.)

An introduction to elementary syntactic, semantic, phonetic and paralinguistic structures is offered. Pertinent everyday cultural concepts are discussed. Relevant comparison and contrast with the native language is treated. Functional communication in the second language in a controlled environment is the principal objective of the course. (*Prerequisite: Placement Examination, for students continuing previous language study*) Satisfies the GER in Foreign Language (first-semester level). Fall semester

LT 102 Elementary Italian II (3 crs.)

The further study of elementary syntactic, semantic, phonetic and paralinguistic structures is offered. Pertinent everyday cultural concepts are discussed. Relevant comparison and contrast with the native language is treated. Functional communication in the second language in a controlled environment is the principal objective of the course. (*Prerequisite: LT 101; or Placement Examination, for students continuing previous language study*) Satisfies the GER in Foreign Language (second-semester level). Spring semester

LT 151-152 Intermediate Italian I-II (3 crs. for each semester)

A continuation of Elementary Italian, with stress on essential grammatical features, oral work, and reading and writing development in the language. (*Prerequisite: LT 102*) LT 151 Fall semester, LT 152 Spring semester

Other Approved Courses:

LT 181-182 Advanced Italian I-II

Portuguese

LP 101 Elementary Portuguese I (3 crs.)

An introduction to elementary syntactic, semantic, phonetic and paralinguistic structures is offered. Pertinent everyday cultural concepts are discussed. Relevant comparison and contrast with the native language is treated. Functional communication in the second language in a controlled environment is the principal objective of the course. (*Prerequisite: Placement Examination, for students continuing previous language study*) Satisfies the GER in Foreign Language (first-semester level). Fall semester

LP 102 Elementary Portuguese II (3 crs.)

The further study of elementary syntactic, semantic, phonetic and paralinguistic structures is offered. Pertinent everyday cultural concepts are discussed. Relevant comparison and contrast with the native language is treated. Functional communication in the second language in a controlled environment is the principal objective of the course. (*Prerequisite: LP 101; or Placement Examination, for students continuing previous language study*) Satisfies the GER in Foreign Language (second-semester level). *Spring semester*

**LP 151-152 Intermediate Portuguese I-II
(3 crs. for each semester)**

A review of basic grammar and pronunciation and a more advanced study of these two aspects of the language. Reading, writing, and oral proficiency will be stressed. (*Prerequisite: LP 102*) *LP 151 Fall semester, LP 152 Spring semester*

Russian

LR 101 Elementary Russian I (3 crs.)

An introduction to elementary syntactic, semantic, phonetic and paralinguistic structures is offered. Pertinent everyday cultural concepts are discussed. Relevant comparison and contrast with the native language is treated. Functional communication in the second language in a controlled environment is the principal objective of the course. (*Prerequisite: Placement Examination, for students continuing previous language study*) Satisfies the GER in Foreign Language (first-semester level). *Fall semester*

LR 102 Elementary Russian II (3 crs.)

The further study of elementary syntactic, semantic, phonetic and paralinguistic structures is offered. Pertinent everyday cultural concepts are discussed. Relevant comparison and contrast with the native language is treated. Functional communication in the second language in a controlled environment is the principal objective of the course. (*Prerequisite: LR 101; or Placement Examination, for students continuing previous language study*) Satisfies the GER in Foreign Language (second-semester level). *Spring semester*

**LR 151-152 Intermediate Russian I-II
(3 crs. for each semester)**

Review and expansion of fundamentals with more detailed reading and analysis of structure. Emphasis will be placed on scientific Russian in other majors as requested by the student. (*Prerequisite: LR 102*) *LR 151 Fall semester, LR 152 Spring semester*

Other Approved Courses:

LR 181-182 Advanced Russian I-II

Spanish

LS 101 Elementary Spanish I (3 crs.)

An introduction to elementary syntactic, semantic, phonetic and paralinguistic structures is offered. Pertinent everyday cultural concepts are discussed. Relevant comparison and contrast with the native language is treated. Functional communication in the second language in a controlled environment is the principal objective of the course. (*Prerequisite: Placement Examination, for students continuing previous language study*) Satisfies the GER in Foreign Language (first-semester level). *Fall semester*

LS 102 Elementary Spanish II (3 crs.)

The further study of elementary syntactic, semantic, phonetic and paralinguistic structures is offered. Pertinent everyday cultural concepts are discussed. Relevant comparison and contrast with the native language is treated. Functional communication in the second language in a controlled environment is the principal objective of the course. (*Prerequisite: LS 101; or Placement Examination for students continuing previous language study*) Satisfies the GER in Foreign Language (second-semester level). *Spring semester*

LS 151 Intermediate Spanish I (3 crs.)

A review of Spanish grammar with emphasis given to reading, writing, listening and speaking; systematic laboratory practice. May not be taken if LS 161 or LS 162 has been successfully completed. (*Prerequisite: LS 102*) *Fall semester*

**LS 152 Intermediate Spanish II: Spanish for the Professions
(3 crs.)**

An introduction to the language of business and professional careers with emphasis on development of appropriate vocabulary; certain sections may concentrate on a specific business or profession; systematic laboratory practice. May not be taken if LS 161 or LS 162 has been successfully completed. (*Prerequisite: LS 151*) *Spring semester*

LS 161-162 Practical Spanish I-II (3 crs. for each semester)

An oral emphasis approach to learning Spanish for career-related situations involving social work, police and fire departments, schools, hospitals and community agencies. May not be taken if LS 151 or LS 152 has been completed successfully. (*Prerequisite: LS 102 or consent of the Instructor*) *LS 161 Fall semester, LS 162 Spring semester*

LS 271 Patterns of the Spanish Language (3 crs.)

Consideration given to writing patterns and to oral patterns with emphasis on lexicon and phonetics; attention to business and professional correspondence; systematic laboratory practice. Conducted in Spanish. (*Prerequisite: LS 152 or LS 162, or consent of the Instructor*) *Fall semester*

LS 272 Advanced Spanish Composition (3 crs.)

Practice in composition utilizing sources from the Spanish-speaking world; systematic laboratory practice. Conducted in Spanish. (*Prerequisite: LS 152 or LS 162, or consent of the Instructor*) *Spring semester*

LS 281 Advanced Composition (3 crs.)

Development of individual written expression. Utilization of literary texts as an approach to composition by focusing on vocabulary, analysis of style and context. Conducted in Spanish. (*Prerequisite: LS 182*)

LS 282 Spanish Phonetics and Conversation (3 crs.)

Improvement of oral proficiency by a systematic study of the sounds of correct pronunciation. Conducted in Spanish. (*Prerequisite: LS 182*)

**LS 291-292 Spanish Civilization I-II
(3 crs. for each semester)**

Consideration given to oral improvement through discussion of topics of Spanish and Spanish-American civilizations through the centuries. Conducted in Spanish. (*Prerequisite: LS 152 or LS 162, or consent of the Instructor*) *LS 291 Fall semester, LS 292 Spring semester*

LS 311 Survey of Spanish Literature I (3 crs.)

Principal movements from the Middle Ages through the eighteenth century, including the *Poemo del Cid* and works of Ruiz, Cervantes, Lope de Vega and Fernandez de Moratin. Conducted in Spanish. (*Prerequisite: LS 271 or LS 272, or consent of the Instructor*) *Fall semester*

LS 312 Survey of Spanish Literature II (3 crs.)

Principal movements from the nineteenth and twentieth centuries, including works of Espronceda, Perez Galdos, Unamuno, Baroja, Garcia Lorca and Cela. Conducted in Spanish. (Prerequisite: LS 311 or consent of the Instructor) Spring semester

LS 371 Advanced Spanish Conversation (3 crs.)

Concentration on fluent expression in formal and informal speech; systematic laboratory practice. Conducted in Spanish. (Prerequisite: LS 291 or LS 292, or consent of the Instructor) Fall semester

LS 421 Survey of Spanish-American Literature I (3 crs.)

Principal movements from the Discovery through the Realism of the nineteenth century, including works of Cortes, Garcilaso de la Vega, Sor Juana Ines de la Cruz, Hernandez, Palma and Carrasquilla. Conducted in Spanish. (Prerequisite: LS 311 or LS 312, or consent of the Instructor) Fall semester

LS 422 Survey of Spanish-American Literature II (3 crs.)

Principal movements from the Modernism of the nineteenth century to the present, including works of Dario, Mistral, Borges, Neruda, Garcia Marquez, Fuentes and Vargas Llosa. Conducted in Spanish. (Prerequisite: LS 421 or consent of the Instructor) Spring semester

LS 471 Extemporaneous Use of Spanish (3 crs.)

Advanced fluency in improvised situations with emphasis on contemporary idioms; systematic laboratory practice. Conducted in Spanish. (Prerequisite: LS 371 or consent of the Instructor) Fall semester

Other Approved Courses:

LS 110 Conversational Spanish for Medical Personnel

LS 210 Latin American Poetry in English Translation

LS 220 The Contemporary Latin American Novel in English Translation

LS 230 Contemporary Latin American Short Story in English Translation

LS 301 The Golden Age of Spanish Literature

LS 310 Contemporary Latin American Short Story

LS 320 Latin American Poetry

LS 331-332 Survey of Spanish-American Literature I-II

LS 351 Cervantes

LS 381 The Middle Ages

LS 401 Nineteenth Century Spanish Literature

LS 410 Latin American Novel: Early 20th Century

LS 420 The Contemporary Latin American Novel

LS 451 Twentieth Century Spanish Literature

LS 495 Seminar in Spanish American Literature

LS 507 Advanced Composition and Stylistics for Graduate Students (3 crs.)

Review of advanced grammar. Exercises in translation from English into Spanish of literary and critical materials. Free composition and training in the use of stylistic devices. Conducted in Spanish. (Prerequisite: LS 181 or LS 281)

LS 511-512 Masterpieces of Spanish-American Literature I-II (3 crs. for each semester)

An intensive study of selected works from the Conquest period, Colonial period, Modernism, and the twentieth century. Conducted in Spanish. (Prerequisite: LS 281 or consent of the Instructor)

LS 520 Topics in Spanish-American Civilization (3 crs.)

A study of Spanish-American thought and culture as expressed in its history, essay, art and literature. Conducted in Spanish. (Prerequisite: LS 281 or consent of the Instructor)

LS 521 Topics in Spanish Civilization (3 crs.)

A study of Spanish thought and culture as expressed in its history, essay, art and literature. Conducted in Spanish. (Prerequisite: LS 281 or consent of the Instructor)

LS 525 Masterpieces of Spanish Literature I (3 crs.)

An intensive study of selected works from the Middle Ages to 1700 including: *Poema de Mio Cid*, *El romancero*, *El libro de buen amor*, *La Celestina*, *El Renacimiento*, *El Siglo de Oro*. Conducted in Spanish. (Prerequisite: LS 281 or consent of the Instructor)

LS 526 Masterpieces of Spanish Literature II (3 crs.)

An intensive study of selected works of Twentieth Century authors including: Ruben Dario, Miguel de Unamuno, Pio Baroja, Juan Ramon Jimenez, Federico Garcia Lorca, Camilo Jose Cela, Ana Maria Matute, Juan Goytisolo, Antonio Buero Vallejo. Conducted in Spanish. (Prerequisite: LS 281 or consent of the Instructor)

FL 338-339 Honors Tutorial (3 crs. each semester)

Special topics in Foreign Languages. Open to All-College and Departmental Honors students. Three hourly meetings weekly. (Prerequisite: Consent of the Department) FL 338 fall semester, FL 339 spring semester

FL 485 Honors Thesis (3 crs.)

This course is open to All-College and Departmental Honors students. One-hour weekly meetings with the thesis director will culminate in an honors thesis. With the consent of the Departmental Honors Committee and the thesis director, this course may be extended into a second semester for three additional credits depending upon the scope of the project. Whether the final version of the thesis qualifies the student to graduate with honors will be determined by the Departmental Honors Committee. Either semester

FL 498 Internship in Foreign Languages (3-15 crs.)

An off-campus experience to expand the cultural and occupational potential of the student using a foreign language in a working environment. (Prerequisite: Consent of the Department) Either semester

FL 499 Directed Study in Foreign Language (1-3 crs.)

Open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. (Prerequisite: Consent of the Department) Either semester

Other Approved Courses:

FL 300 Languages of the World

FL 310 Comparative Medieval Romance Literatures in English Translation

FL 311 Dante and Medieval Culture in Translation

FL 502 Research (credit to be arranged)

Original research undertaken by the graduate student in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

FL 503 Directed Study (credit to be arranged)

Designed for the graduate student who desires to study selected topics in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

Department of Health, Physical Education, and Recreation

Chairperson and Graduate Program Coordinator:

Professor Mary Lou Thornburg

Professors: Edward Braun, Carolyn Cramer,

Paul Dubois, Genevieve Fitzpatrick,

Robert Frederick, Regina Gross, Edward J. Hart,

Robert Haslam, Virginia Hogg, Joseph Huber,

Thomas Knudson, Patricia Phillips

Associate Professors: Janice Harris,

Shirley Krasinski, Peter Mazzaferro, Johanne Smith

Assistant Professors: Marcia Anderson, Ann Coakley,

Cheryl Hitchings, Nancy Moses,

Amos Nwosu, Joseph Yeskewicz

The Department of Health, Physical Education and Recreation offers both undergraduate and graduate programs in the areas of Health, Physical Education and Recreation.

At the undergraduate level the department offers a major in Physical Education which leads to a Bachelor of Science or Bachelor of Arts degree, and minors in Coaching, Health and Recreation.

A minor in Dance is offered jointly by the Department of Health, Physical Education and Recreation and the Department of Speech Communication, Theatre Arts and Communication Disorders. For detailed information, please consult the section on Undergraduate Multidisciplinary Programs in this catalogue.

Graduate study offered by the department includes: a program in the area of Health which leads to a Master of Education in Health Promotion, a program in the area of Physical Education which leads to a Master of Science in Physical Education, and study in the areas of Health and/or Physical Education as part of the CAGS (Certificate of Advanced Graduate Study) in the Division of Professional Education.

The department also offers a variety of undergraduate and graduate courses in Health, Physical Education and Recreation to all students of the College.

Undergraduate Programs

Bachelor of Arts/ Bachelor of Science

The Health, Physical Education and Recreation Department offers the Physical Education major an opportunity to elect his/her area of study from among seven concentrations (areas of specialization) and four Teacher Certification programs, two in Physical Education and two in Health.

The concentrations which are available have been developed so as to prepare graduates to pursue career opportunities in community-based organizations such as business, industry, agencies and hospitals. These concentrations, which include internships in various settings in the community, have expanded the role of the physical educator and health educator beyond the teaching environment in schools, thus preparing the graduate for new career opportunities.

Teacher Certification programs in both Health and Physical Education are also available for those students who wish to teach in the public schools. These students may elect one of the four Teacher Certification programs which are available:

Teacher Certification in

Physical Education K-9 level

Teacher Certification in

Physical Education 5-12 level

Teacher Certification in Health K-9 level

Teacher Certification in Health 5-12 level

Physical Education Major

Students majoring in Physical Education must complete a minimum of 121 credits for graduation. This requirement includes the following 27 credit major and cognates:

PE 100 Anatomy
PE 101 Kinesiology
PE 117 Historical and Philosophical Foundations
of Sport and Physical Education
PE 118 Socio-Cultural Foundations of Sport
PE 217 Principles of Motor Learning
PE 401 Physiology of Exercise
9 physical education activity courses*
HE 102 Health Science
BI 102 Introduction to Zoology
BI 280 Human Physiology
PY 100 Introductory Psychology
or
PY 101 Foundations of Psychology

**Some concentrations or certification programs have specific activity requirements. Contact the Department Chairperson or faculty program liaison for information on these requirements.*

The remaining credits necessary for completion of the degree include the General Education Requirements and one or more of the following selections:

1. elect from the seven concentrations listed below available to the Physical Education major;
2. elect a Teacher Certification option in Physical Education or Health;
3. develop an individualized program of study (with assistance of advisor);
4. combine the Physical Education major with a major or minor in another discipline;
5. combine several of the above.

Athletic Training Concentration

Concentrations Available to Physical Education Major

This concentration, which is an approved National Athletic Trainers Association program, prepares the Physical Education major for careers related to the care and prevention of athletic injuries. The program includes conditioning, preparation for sports participation, rehabilitation programs, and administration of an Athletic Training facility. Practical experience through internship is an important aspect of the program. Since there is limited enrollment based on selection-retention procedure, interested students should consult the department relative to this procedure.

PE 240 Fundamentals of Athletic Training
PE 241 Laboratory Techniques in Injury
Evaluation and Taping Methods
PE 324 Physical and Developmental Activities for the
Disabled and Handicapped
PE 340 Principles and Practices in Athletic Training
PE 450 Therapeutic Modalities, Exercise and
Administration in Athletic Training
PE 490 Seminar in Athletic Training
PE 498 Field Experience in Physical Education
HE 302 First Aid and Safety
HE 471 Nutrition
SO 102 Introduction to Sociology
and a chemistry or physics course.

Coaching Concentration

This concentration prepares the Physical Education major to apply concepts and principles related to all aspects of coaching, including: the player, team, coach, and administration of athletic programs for youth and adults. Internships are an important aspect of this concentration.

PE 240 Fundamentals of Athletic Training
PE 414 Coaching
PE 481 Organization and Administration of
School Athletics
PE 498 Field Experience in Physical Education
Two methods and techniques of coaching courses
Two officiating courses
HE 302 First Aid and Safety
CC 130 Human Communication Skills
SO 102 Introduction to Sociology

Exercise Science/ Health Fitness Concentration

This concentration prepares students for career opportunities in the area of health and fitness in such settings as industry, hospitals, agencies, education, and human service organizations. Emphasis is on cardiovascular health, which includes: physical health evaluation, graded exercise tests, exercise prescription and physical activity program development. Internships off campus in the settings identified above are an important aspect of this concentration.

- PE 201 Apprenticeship in Exercise Science/
Health Fitness
- PE 240 Fundamentals of Athletic Training
- PE 402 Physiology of Exercise II
- PE 403 Cardiovascular Function, Analysis and
Evaluation
- PE 404 Exercise Prescription and Cardiac
Rehabilitation
- PE 498 Field Experience in Physical Education
- CH 125 Introductory Chemistry for the Life
Sciences I
- CH 131 General Chemistry I
or
CH 102 Chemistry in Everyday Life
- PY 355 Behavior Modification
- SO 102 Introduction to Sociology
- HE 471 Nutrition

Health Concentration

This program provides the Physical Education major with Health knowledge that, in combination with the Physical Education background, prepares the student for career opportunities that involve both areas as a foundation for health promotion. A Health minor is also available (see information under Health minor).

- HE 102 Health Science
- Four of the following courses:
 - HE 300 Current Issues in Health
 - HE 301 Human Sexuality
 - HE 305 Drugs in Society
 - HE 471 Nutrition
 - HE 474 Community Health
 - HE 477 Environmental Health
 - HE 478 Consumer Health
 - HE 480 Family Life and Sex Education
 - HE 481 Selected Health Issues

Motor Development Therapy/Adapted Physical Education Concentration

This concentration prepares the physical education major to work with children, youth and adults with special needs. The program focuses on physical education to meet the developmental, sport, dance and leisure time needs of special populations as well as their emotional and social needs. The concentration prepares graduates for career opportunities in rehabilitation centers, clinics, hospitals, social agencies and private and public schools. Opportunities for practical experience are provided through off-campus internships as well as the department's sponsored Children's Physical Developmental Clinic.

- PE 324 Physical and Developmental Activities for
the Disabled and Handicapped
- PE 494 Advanced Study of Motor Programs for
Special Needs Children and Youth
- PE 498 Field Experience in Physical Education
- PY 224 Child Psychology
- PY 328 Psychology of Mental Retardation
- PY 355 Behavior Modification
- PY 370 Abnormal Psychology
- SE 212 The Special Needs Learner in the Middle School
or
SE 214 The Special Needs Learner in the High School

Programs for Children and Youth Concentration

Through this concentration the Physical Education major learns about the preadolescent child and the important role of physical education and physical activities in the preadolescent's growth and development. Internships where students work with this age group are an important aspect of this program.

- PE 225 Teaching Educational Dance, Games and
Gymnastics to Children
- PE 324 Physical and Developmental Activities for
the Disabled and Handicapped
- PE 326 Fundamentals of Movement Education
- PE 465 Theory and Development of Play
- PE 485 Integration of Physical Activity:
Home, School and Community
- PE 498 Field Experience in Physical Education
- HE 302 First Aid and Safety
- PY 225 Psychology of Infancy and Early Childhood
- SO 102 Introduction to Sociology
- An art and a music course.

Recreation Concentration

This concentration provides the Physical Education major with the knowledge and skills necessary to pursue careers in a wide variety of leisure service settings. Specifically, students who have combined the study of Physical Education with the Recreation Concentration will be capable of arranging leisure time experiences and providing leadership for children and adults in government, industry, and community service agencies.

PE 230 Introduction to Recreation
PE 332 Leadership and the Group Process
PE 461 Organization and Administration of Public Recreation
PE 462 Programming for Recreation and Leisure
PE 498 Field Experience in Physical Education (recommended elective experience)

Teacher Certification Programs

Teacher Certification options available through the department are as follows:

Teacher Certification in Health - grades K-9

Prerequisites:

1. Major in any discipline
2. Acceptance in college and department Teacher Preparation Programs
3. Health Concentration or Health Minor for Physical Education majors, or Health Minor for other majors

Required Courses:

HE 102 Health Science
HE 300 Current Issues in Health
HE 302 First Aid and Safety
HE 305 Drugs in Society
HE 471 Nutrition
HE 480 Family Life and Sex Education
HE 482 Health Education in the Elementary Schools
HE 492 Practicum in Student Teaching — Health
PE 100 Anatomy
BI 102 Introduction to Zoology
BI 280 Human Physiology
PY 100 Introductory Psychology
or
PY 101 Foundations of Psychology
SE 212 The Special Needs Learner in the Elementary School
SO 302 Social Problems
ED 230 Educational Psychology
ED 480 Philosophy of Education
EE 220 Introduction to Strategies of Teaching
EE 420 Educational Measurement
A Communication Arts and Sciences course

Teacher Certification in Health - grades 5-12

Prerequisites:

1. Major in any discipline
2. Acceptance in college and department Teacher Preparation Programs
3. Health Concentration or Health Minor for Physical Education majors, or Health Minor for other majors

Required Courses:

HE 102 Health Science
HE 200 Principles and Practices of Health Education
HE 300 Current Issues in Health
HE 302 First Aid and Safety
HE 305 Drugs in Society
HE 471 Nutrition
HE 480 Family Life and Sex Education
HE 492 Practicum in Student Teaching — Health
PE 100 Anatomy
BI 102 Introduction to Zoology
BI 280 Human Physiology
PY 100 Introductory Psychology
or
PY 101 Foundations of Psychology
SE 214 The Special Needs Learner in the High School
SO 302 Social Problems
ED 220 Teaching in the High School
ED 230 Educational Psychology
ED 370 Evaluating Teaching and Learning in the High School
ED 480 Philosophy of Education
A Communication Arts and Sciences course

Teacher Certification in Physical Education - grades K-9

Prerequisites:

1. Acceptance in Physical Education major
2. Acceptance in college and department Teacher Preparation Programs

Required Courses:

PE 225 Teaching Educational Dance, Games and Gymnastics to Children
PE 227 Movement Analysis in Dance, Games and Gymnastics
PE 324 Physical and Developmental Activities for the Disabled and Handicapped
PE 326 Fundamentals of Movement Education
PE 329 Physical Education for Middle and Junior High School Children
PE 390 Field Based Pre-Practicum — Physical Education
PE 412 Planning, Implementation, and Evaluation in Teaching Physical Education
PE 492 Practicum in Student Teaching — Physical Education
HE 302 First Aid and Safety
PY 224 Child Psychology
ED 480 Philosophy of Education

Teacher Certification in Physical Education - grades 5-12

Prerequisites:

1. Acceptance in Physical Education major
2. Acceptance in college and department Teacher Preparation Programs

Required Courses:

PE 312 Strategies and Analysis in Teaching Physical Activities
PE 324 Physical and Developmental Activities for the Disabled and Handicapped
PE 329 Physical Education for Middle and Junior High School Children
PE 390 Field Based Pre-Practicum — Physical Education
PE 412 Planning, Implementation, and Evaluation in Teaching Physical Education
PE 492 Practicum in Student Teaching — Physical Education
HE 302 First Aid and Safety
PY 226 Adolescent Psychology
ED 480 Philosophy of Education
three physical education activity courses (in addition to the major requirement)

Coaching Minor

The coaching minor meets the needs of the coaching profession by providing an opportunity for students to combine the study of coaching with a major in any discipline. This multidisciplinary program approach will prepare the student for coaching related careers in community-based organizations such as youth sports programs, church programs, recreational settings and school settings.

PE 100 Anatomy
PE 101 Kinesiology
PE 190 Conditioning
PE 217 Principles of Motor Learning
PE 240 Fundamentals of Athletic Training
PE 414 Coaching
PE 471 Psycho/Social Aspects of Sports
PE 499 Directed Study in Physical Education
One methods and techniques of coaching course.

Health Minor

The department offers a Health minor which is open to all undergraduates. The Health minor provides an opportunity for students to combine the study of Health with a major in any discipline. This multidisciplinary program approach will prepare the student for Health-related careers in community-based organizations, such as business, industry, hospitals, agencies that deal with health problems, health promotion, or health services.

HE 102 Health Science
HE 200 Principles and Practices of Health Education
HE 300 Current Issues in Health
HE 400 Development and Administration of Health Programs
three additional courses in Health approved by the department

Students who take the Health minor and wish to be certified to teach in public schools refer to the Teacher Certification program information of the department's offerings.

Recreation Minor

The Recreation Minor is open to all undergraduates. It provides a multidisciplinary approach to producing recreational professionals capable of administering, supervising and leading leisure services. Students minoring in Recreation may choose to specialize in one of the following: Therapeutic Recreation, Outdoor Recreation, Play Specialist or Recreation Generalist. Students who complete the Recreation Minor will be prepared to assume careers in a wide variety of settings -- social institutions, hospitals, business and industry, preschools, community schools, Y's, the out-of-doors (challenge/adventure/Outward Bound), government, correctional institutions.

PE 230 Introduction to Recreation
PE 332 Leadership and the Group Process
PE 461 Organization and Administration of Public Recreation
PE 462 Programming for Recreation and Leisure
Two additional courses in Recreation to be chosen with department approval depending upon elected area of specialization.
PE 498 Fieldwork in Recreation (recommended elective experience)

Graduate Programs

The Health, Physical Education and Recreation Department offers programs leading to the degrees of Master of Education in Health Promotion and Master of Science in Physical Education, as well as a CAGS (Certificate of Advanced Graduate Study) in Education with areas of study in Health and/or Physical Education. (For CAGS details, consult the CAGS in Education section of the catalogue.) In addition the Department offers a non-degree post-bachelor's certification program leading to the following specialized teaching certificates: Health (K-9, 5-12) and Physical Education (K-9, 5-12).

Master of Education in Health Promotion

This program is designed for individuals who are currently involved in health promotion activities or who seek to prepare for health-related careers in community-based organizations such as business, industry, agencies, hospitals, and voluntary and official health agencies, as well as for inservice teachers.

Applicants who do not possess an adequate background in health and/or related areas will be required to make up course deficiencies. Such background course work will not be applied to the graduate program's minimum credit requirements.

The graduate program of study includes:

1. GS 501 Graduate Program Planning (required of all graduate students, see *Graduate Advisors and Program Planning* in the Graduate School section of this catalogue) — 1 graduate credit.
2. All master's degree candidates in Health Promotion who are accepted after 5/31/87 will be required to successfully complete the following core:
 - HE 504 Seminar in Health Promotion Theory & Literature (3 crs.)
 - HE 511 Research and Evaluation Methods in Health Promotion (3 crs.)
 - HE 518 Quantitative Methods in Health Promotion/Epidemiology (3 crs.)
 - HE 519 Scientific & Philosophical Foundations of Health Promotion (3 crs.)
 - HE 520 Designing and Administering Health Promotion Programs (3 crs.)

3. All master's degree candidates who are accepted after 5/31/87 will be required to choose one of three alternative courses of study:

Option A

1. Successful completion of the core requirements (15 crs.)
2. Individualized program of electives by advisement (18 crs.)
3. GS 501 Program Planning (1 cr.)
4. Comprehensive Examination on core requirements

Option B

1. Successful completion of the core requirements (15 crs.)
2. Individualized program of electives by advisement (15 crs.)
3. Health Promotion Project (HE 501) (3 crs.)
4. GS 501 Program Planning (1 cr.)
5. Comprehensive Examination:
Oral Defense of Health Promotion Project

Option C

1. Successful completion of the core requirements (15 crs.)
 2. Individualized program of electives by advisement (12 crs.)
 3. Thesis in Health Promotion (HE 502) (6 crs.)
 4. GS 501 Program Planning (1 cr.)
 5. Comprehensive Examination:
Oral Defense of Thesis
4. Students who have an expressed interest in health promotion/health education in school settings will be required to complete ED 520 and ED 580 within the "electives" component of the program.
 5. Students who apply for admission to the M.Ed. Program in Health Promotion after 5/31/87 should have completed at least 12 hours of credit at the baccalaureate level in the social/behavioral sciences, at least one course in epidemiology or health services organization, and 6 hours of credit at the baccalaureate level in health related courses. Students may petition the Department Graduate Committee to substitute job related experiences for any of the aforementioned academic requirements.

Graduate credit is given for HE courses numbered 400 and 500, except the following:

- HE 492 Practicum in Student Teaching — Health
- HE 498 Field Experience in Health
- HE 499 Directed Study in Health

Master of Science in Physical Education

This program is designed for individuals with an undergraduate major in Physical Education, or its equivalent, who wish to pursue new career directions related to the field in community-based organizations, such as business, industry, agencies, hospitals, and educational settings, or who wish to enhance their undergraduate preparation through advanced study. Several program concentrations are available and are described below.

Individuals who do not have an undergraduate major in Physical Education may meet this prerequisite requirement by completing a prescribed 24 credit undergraduate course sequence in Physical Education in the college day program. Such individuals should consult with the program coordinator.

The graduate program of study, involving a minimum of 31 graduate credits, includes:

1. GS 501 Graduate Program Planning (required for all students, see *Graduate Advisors and Program Planning* in the Graduate School section of this catalogue) — 1 graduate credit.
2. PE 511 Research Methods in Physical Education — 3 graduate credits.
3. Program electives: Students must elect one of the following options:
 - A. Individualized Program of Study:
Development of a program of study, in consultation with the program advisor, to meet individual career and educational goals.
 - B. Concentration in Adapted Physical Education:
PE 451 Theoretical and Practical Use of Wheelchairs and Prosthetics for Mobility, Sports and Leisure Activity — 3 credits
PE 484 Physical Education for Special Needs Children and Youth — 3 credits
PE 494 Advanced Study of Motor Programs for Special Needs Children and Youth — 3 credits —
PE 508 Motor Learning — 3 credits
PE 595 Internship in Physical Education — 3-6 credits
Courses in psychology and/or special education appropriate to individual program — 9 credits
Electives appropriate to program — 0-3 credits
 - C. Concentration in Human Performance/Health Fitness:
PE 402 Exercise Physiology II — 3 credits
PE 404 Exercise Prescription and Cardiac Rehabilitation — 3 credits
PE 515 Exercise Circulation: Mechanisms and Morphology — 3 credits
PE 520 Health Fitness Program Planning Management — 3 credits

PE 544 Applied Laboratory Techniques in Exercise Science — 3 credits

PE 595 Internship in Physical Education — 3-6 credits

Suggested electives

Specific course selection will be made by the advisor and student based upon the student's professional background and program objectives. The following courses would be appropriate:

*PE 400 Physiology and Techniques of Strength Fitness — 3 credits

*PE 403 Cardiovascular Analysis and Evaluation — 3 credits

PE 502 Research — variable credits

PE 503 Directed Study — 3 credits

HE 471 Nutrition — 3 credits

HE 483 Nutrition and Cardiovascular Health — 3 credits

HE 518 Quantitative Methods in Health Promotion and Epidemiology — 3 credits

**Recommended based on student's program. Both may be taken.*

Graduate credit can be given for courses numbered 400 and 500 except the following:

PE 415 through PE 431

PE 492 Practicum in Student Teaching — Physical Education

PE 498 Field Experience in Physical Education

PE 499 Directed Study in Physical Education

Post-Bachelor's Certification Program in Health

The post-bachelor's certification program in health is a non-degree program leading to teaching certificates for grades K-9 and 5-12.

Admission Requirements:

Any undergraduate major, overall QPA of 2.5, 2.5 grade point average in any Health courses, minimum of C grade in any Teacher Preparation course.

Program Requirements:

Grades K-9 Certification

GS 501 Program Planning (1 cr.)
HE 102 Health Science
HE 300 Current Issues in Health
HE 302 First Aid and Safety
HE 305 Drugs in Society
HE 390 Field Based Pre-Practicum
HE 471 Nutrition
HE 480 Family Life and Sex Education
HE 482 Health in the Elementary School
HE 492 Student Teaching Practicum
PE 100 Anatomy
BI 280 Human Physiology
PY 100 Introductory Psychology
SE 212 The Special Needs Learner in the Elementary School
A Sociology course
A Speech Communication course
ED 230 Educational Psychology
ED 480 Philosophy of Education
EE 220 Introduction to Strategies of Teaching
EE 420 Educational Measurement

Grades 5-12 Certification

GS 501 Program Planning (1 cr.)
HE 102 Health Science
HE 200 Principles and Practices of Health Education
HE 300 Current Issues in Health
HE 302 First Aid and Safety
HE 305 Drugs in Society
HE 390 Field Based Pre-Practicum
HE 471 Nutrition
HE 480 Family Life and Sex Education
HE 492 Student Teaching Practicum
PE 100 Anatomy
BI 280 Human Physiology
PY 100 Introductory Psychology
SE 214 The Special Needs Learner in the High School
A Sociology course
A Speech Communication course
ED 220 Teaching in the High School
ED 230 Educational Psychology
ED 370 Evaluating Teaching and Learning in High School
ED 480 Philosophy of Education

Post-Bachelor's Certification Program in Physical Education

The post-bachelor's certification program in physical education is a non-degree program leading to teaching certificates for grades K-9 and 5-12.

Admission Requirements:

1. Undergraduate Major in Physical Education
or
Anatomy
Kinesiology
Foundations in the Study of Human Movement
Principles of Motor Learning
Physiology of Exercise
Minimum of 9 credits in activities
2. 2.5 grade point average in Physical Education courses
3. Minimum QPA of 2.5
4. Grade of at least C in any Teacher Preparation course

Program Requirements:

Grades K-9 Certification

GS 501 Program Planning (1 cr.)
PE 225 Teaching Educational Games, Dance and
Gymnastics
PE 227 Movement Analysis in Dance, Games and
Gymnastics
PE 324 Developmental and Adapted Physical Education
PE 326 Fundamentals of Movement Education
PE 329 Physical Education for Middle and Junior High
School Level
PE 390 Field Based Pre-practicum
PE 412 Planning, Implementation and Evaluation
PE 492 Student Teaching Practicum
HE 302 First Aid and Safety
ED 480 Philosophy of Education
PY 224 Child Psychology

Grades 5-12 Certification

GS 501 Program Planning (1 cr.)
PE 312 Strategies and Analysis of Teaching
Physical Activities
PE 324 Developmental and Adapted Physical
Education
PE 329 Physical Education for Middle and Junior
High School Level
PE 390 Field Based Pre-Practicum
PE 412 Planning, Implementation and Evaluation
PE 492 Student Teaching Practicum
HE 302 First Aid and Safety
ED 480 Philosophy of Education
PY 226 Adolescent Psychology
Three Physical Education activities courses (in addition to
the major requirement)

Course Offerings*

Health

HE 101 Introduction to Health Professions (3 crs.)

An introduction to the shifting focus of health care delivery from a disease to a wellness orientation. Within the larger context of dynamic and changing health systems, the course aims to identify the role and contributions of a variety of health professions to health promotion. *Fall semester*

HE 102 Health Science (3 crs.)

Attitudes and practices as they influence effective living; common adult health problems; community health standards and services; special problems of concern in the area of community health. *Either semester*

HE 200 Principles and Practices of Health Education (3 crs.)

Selection of content for health courses with emphasis on current trends; analysis of the learning and teaching process as applied to health education. *(Prerequisite: HE 102) Either semester*

HE 300 Current Issues in Health (3 crs.)

Designed to acquaint the students with current health issues and trends related to the school and community. *(Prerequisite: HE 102) Either semester*

HE 301 Human Sexuality (3 crs.)

Investigation of latest research relating to human sexual response, sexual attitudes and sexual values. Topics covered will also include homosexuality, masturbation, venereal disease, prostitution, abortion, birth control, premarital and extra-marital relations. *Either semester*

HE 302 First Aid and Safety (2 crs.)

Practical application of techniques used to care for the suddenly ill or injured. Successful completion will result in American Red Cross certification. Safety principles and practices will also be covered. *Either semester*

HE/SW 303 Interdisciplinary Approaches to the Delivery of Health Services (3 crs.)

A wide range of interdisciplinary health team approaches will be analyzed. The field component is observational and will provide insight into the pragmatic realities of a health team. This course will be a first exposure to the theoretical and experiential dynamics of interdisciplinary approaches to delivery of health services. Disciplines involved include social work, health, psychology, nursing and medicine. *(Prerequisite: 6 credits in Health and Social Work or Health-related areas) Offered alternate years*

HE 305 Drugs in Society (3 crs.)

Study of the impact of the environmental and cultural values affecting the drug using population. Views on subculture and alternative life styles and the forces that shape them. Understanding trends of modern treatment facilities and rehabilitation procedures. Emphasis on alternatives to drug use. *Spring semester*

HE 390 Field Based Pre-Practicum — Health Education (3 crs.)

Designed to provide the student with an introduction to teaching health in an off-campus setting. *Either semester*

HE 400 Development and Administration of Health Programs (3 crs.)

Study and analysis of administrative roles and responsibilities associated with the implementation and evaluation of health education programs in various community organizations and agencies within the health system. *(Prerequisite: HE 102, HE 200 or HE 300 or permission of the Instructor for graduate students) Offered once per year*

HE 450 Health Promotion Strategies (3 crs.)

Current strategies and techniques for transmitting information will be analyzed. Students will develop and evaluate strategies and techniques for promoting health information and wellness behaviors in a variety of settings. *(Prerequisite: HE 400) Offered once per year*

HE 471 Nutrition (3 crs.)

Nutrition and its relation to cultural patterns, dental health, total health and fitness, weight control and purchasing and preparation of food. *Either semester*

HE 474 Community Health (3 crs.)

The history and development of public health programs, the relationships of health departments-local, state and federal-public and private agencies, and the school health program. Problems and principles of the community health programs based on local needs. Designed for classroom teachers, health specialists and others interested in community health. *Offered once per year*

HE 477 Environmental Health (3 crs.)

Study of selected environmental influences, and how they affect health. Proposal and action-oriented suggestions for bringing about change. Understanding pressure tactics, political influences, resistive forces and strategies for dealing with them. Exploration of legal structure, geographical difficulties, priority establishment and safety tolerances. *Fall semester*

HE 478 Consumer Health (3 crs.)

Course designed to help people make informed decisions regarding their best use of health products and services. Topics to be covered include health insurance, life insurance, credit buying, quacks, patent medicines, fad diets, food buying, criteria for selecting health service, identifying subtleties in advertising and understanding the misconceptions concerning health. *Spring semester*

HE 480 Family Life and Sex Education (3 crs.)

Professional preparation for teachers of family life and sex education. Determining curriculum, overcoming administrative and parental objections, dealing with specific problems of school-age youth such as birth control, venereal disease, psychological and social aspects of sexuality. *Fall semester*

HE 482 Health Education in the Elementary Schools (3 crs.)

Study of the identification and appraisal of physical, emotional, and social health problems of elementary school children. Focus on teachers' approaches toward health education and the creation of an emotionally, socially and intellectually healthy classroom environment. *Either semester*

HE 483 Nutrition and Cardiovascular Health (3 crs.)

This course will deal with the selection of nutritional foods throughout the life cycle with specific emphasis on how cardiovascular health may be maintained and/or improved by proper nutritional practices. *(Prerequisite: One course in nutrition or a scientifically-based course that includes topics of nutrition.) Offered once per year*

HE 484 Death and Dying Education (3 crs.)

A study of the health issues (physical, emotional and social) related to terminal illness and death. *Offered once per year*

*See pages 66-67 for general information regarding course offerings.

HE 492 Practicum in Student Teaching — Health (15 crs.)

Full-time teaching for one semester with supervision provided by members of the department faculty. *(Prerequisite: Acceptance and good standing in Teacher Preparation Program and satisfactorily completed Department Teacher Preparation Program courses) Either semester*

HE 498 Field Experience in Health (3-15 crs.)

A field experience offers qualified students the opportunity to gain practical off-campus experience in the area of health. Placements are made in both public and private agencies and are designed to complement a student's concentration or minor in health. *(Prerequisite: Consent of the Department) Either semester*

HE 499 Directed Study in Health (1-3 crs.)

Open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. *(Prerequisite: Consent of the Department) Either semester*

Other Approved Courses:

HE 475 Theoretical Basis of Health Instruction

HE 479 Health Problems

HE 481 Selected Health Issues

HE 501 Health Promotion Project (3 crs.)

Individual health promotion project is planned, implemented and evaluated under the direct supervision of a faculty mentor.

HE 502 Research (credit to be arranged)

Original research undertaken by the graduate student in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

HE 503 Directed Study (credit to be arranged)

Designed for the graduate student who desires to study selected topics in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

HE 504 Seminar in Health Promotion Theory and Literature (3 crs.)

This course is designed to orient the graduate student to the process of a formal literature review and the subsequent theory that ensues. The student will be required to complete a comprehensive literature review and deliver a formal seminar report.

HE 508 Health Crisis Intervention (3 crs.)

Dealing with mental, emotional and social health problems of the individual, the family and society. Exploration of suicide education, death education and psychosomatic illness. Investigation and practice of techniques of aiding the potential suicide; the tripping drug user; the chronic alcoholic; the obese, neurotic, and promiscuous; geriatric problems; and health care availability. Course will consider agency roles in these areas. *(Prerequisite: 6 credits in Health)*

HE 509 Occupational Health and Safety (3 crs.)

Study of the potential health and safety hazards in different occupational environments and intervention measures to reduce or eliminate exposures.

HE 510 Advanced Nutrition Concepts (3 crs.)

An advanced course in nutrition with emphasis on current nutritional concepts and a critical analysis of major nutritional issues. *(Prerequisite: HE 471 or a nutrition course)*

HE 511 Research and Evaluation Methods in Health Promotion (3 crs.)

This course will develop competencies needed to both produce and consume research in Health Promotion and allied areas. Via the development of a research proposal, students will gain an understanding of such research techniques as problem formulation, literature review, sampling, hypothesis construction, research design, instrumentation, and data analysis.

HE 512 Humanistic Approach to Drug Education (3 crs.)

A humanistic approach to drug education with emphasis on: available resources, educational modalities, effecting curriculum change, the communication process, attitudes and values, and teaching methods. Lecturers will include experts from the field of drug education.

HE 513 Cultural Approaches to Health (3 crs.)

Anthropological, sociological, psychological and physiological factors related to health behavior of sub-cultured groups. Concerns health knowledge, attitudes, values and behavioral practice of various religious and ethnic groups. *(Prerequisite: 3 credits in Sociology)*

HE 514 Selected Topics in Environmental Health (3 crs.)

An in-depth study of important environmental health issues. The topics discussed will provide the information needed to make intelligent decisions regarding critical environmental health problems.

HE 515 Evaluation of School Health Programs (3 crs.)

Study of the total school health program. Construction and application of an instrument to determine extent of program. School visitations are included. *(Prerequisite: 12 credits in Health)*

HE 518 Quantitative Methods in Health Promotion/Epidemiology (3 crs.)

This is an introductory course in quantitative methods in epidemiology and health promotion. The course includes inferential and descriptive techniques as well as life table construction, and epidemiological rates, ratios and proportions.

HE 519 Scientific and Philosophical Foundations of Health Promotion (3 crs.)

The focus of this course is to survey the historical/philosophical foundations of health promotion and provide a scientific basis for the development of health promotion programs.

HE 520 Designing and Administering Health Promotion Programs (3 crs.)

Analysis and skill development in administration of health promotion programs in a variety of settings with emphasis in administrative issues, staff development and consultation.

Physical Education

PE 100 Anatomy (3 crs.)

Includes a fundamental study of the human body and its parts, with special emphasis on bones, muscles, and tissues. *Either semester*

PE 101 Kinesiology (3 crs.)

Introduces the student to the concepts and principles of biomechanics as they relate to sport skills. *Either semester*

PE 117 Historical and Philosophical Foundations of Sport and Physical Education (3 crs.)

An historical and philosophical study of sport and physical education, including an overview of the biological and normative/humanities areas constituting the discipline of sport studies.

PE 118 Socio-Cultural Foundations of Sport (3 crs.)

This course provides an introduction to the study of sport as a social institution and an element of culture. Major topics include the roles of sport in society, the relationship of sport to other social institutions and variations in sport cultures. *Either semester*

†PE/CT 155 Creative Dance Group (1 cr.)

Open to all students who enjoy composing and performing dances. At least one major performance is given each year. One three-hour meeting each week, plus additional periods at performance time. Formerly PE/CT 180. *Either semester*

PE 200 Fitness for Life (3 crs.)

This course is concerned with aiding the student to achieve a lifetime of physical vigor, good health and sense of well being. Its emphasis is on the biological basis, planning and implementing of an ongoing program of self care through physical activity and proper nutrition. *Either semester*

PE 201 Apprenticeship in Exercise Science/Health Fitness (1 cr.)

The course is an introductory field-work experience in the design and conduct of preventive and rehabilitative exercise programs. In addition to the class work, the student will observe and assist in the operation and supervision of an established program. *Either semester*

PE 217 Principles of Motor Learning (3 crs.)

Introduces the student to the concepts and principles concerned with learning and performance of movement skills. *Either semester*

PE 225 Teaching Educational Dance, Games and Gymnastics to Children (3 crs.)

An introduction to the movement approach to dance, games and gymnastics with emphasis on program content and progression using the thematic approach. *Fall semester*

†Note: From the one-credit co-curricular activity, PE/CT 155, and from any and all co-curricular activities for which the College grants credit, a student may accumulate not more than one credit per semester (two per year) nor more than six per four-year degree program.

*Offered for credit in both the Health, Physical Education and Recreation and the Speech Communication, Theatre Arts and Communication Disorders Departments.

PE 227 Movement Analysis in Dance, Games and Gymnastics (3 crs.)

This course applies and analyzes Laban's movement framework for curriculum development in education dance, educational games and educational gymnastics for children. A transition will be made to more specialized sport skills, dance forms and formal Olympic gymnastics from the analysis of basic movement skills. *Spring semester*

PE 230 Introduction to Recreation (3 crs.)

The history of recreation from primitive man to the present. Philosophies of recreation, leisure, work and play are presented. Recreation services and career opportunities are discussed. Professional organizations and literature are reviewed. *Fall semester*

PE 240 Fundamentals of Athletic Training (3 crs.)

Classroom course emphasizing athletic fitness, the roles and responsibilities of the athletic trainer, and the prevention and management of sport injuries. The classroom experience will be enhanced by personal observation of the training room. *Either semester*

PE 241 Laboratory Techniques in Injury Evaluation and Taping Methods (2 crs.)

Laboratory course in the making and fitting of protective equipment, operation of conditioning equipment, taping and use of immobilization devices, basic injury evaluation, and basic reconstructive surgical procedures for athletic injuries. Guest speakers will be used to supplement the course material. (Prerequisite: PE 240) *Spring semester*

PE 252 Water Safety Instructor (2 crs.)

Instruction in advanced aquatic skills and teaching methods. Students who demonstrate a high level of skill and the necessary teaching attitude will receive Red Cross Certification as Water Safety Instructors. *Spring semester*

*PE/CT 255 Creative Dance I (3 crs.)

The study of dance, as the Art of Movement. Included are basic exercise, individual and group dance based on polarities of force, impulse, time, space, vocal and instrumental sound. Formerly PE/CT 226. *Fall semester*

*PE/CT 256 Creative Dance II (3 crs.)

Study of impulse, design, metric patterns, dynamic qualities of dance, accompaniment and elements of performance through improvisation and composition. Emphasis will be on increased artistry in the development and presentation of individual and group dances. Formerly PE/CT 325. (Prerequisite: One 3 credit dance course or consent of the Instructor) *Spring semester*

*PE/CT 259 Dance Repertory (1 cr.)

Students will be taught a major choreographic work by faculty and/or guest artists. *Spring semester*

PE 260 Youth Sports (3 crs.)

Designed to prepare students to plan, and organize and implement youth sports programs. Students will gain insight into the research relating to completion, conditioning and equipment selection.

PE 300 Movement Acquisition for the Pre-School Child (3 crs.)

To provide the physical education major with an understanding of the objectives of a movement program for pre-school age children. The course will include the sequential stages of motor development and their effect on the acquisition of basic motor skills. *Fall semester*

PE 312 Strategies and Analysis in Teaching Physical Activities (3 crs.)

Designed to prepare the student with an understanding of the learning and development of skill performance in a variety of environments. Major emphasis will be placed on learning progressions, organizational patterns, teaching strategies and cues, skill analysis, error correction and performance evaluation of activities. (Prerequisite: PE 101, PE 217) Fall semester

PE 320 Physical Education for Youth in Grades 1-6 (3 crs.)

A study of the philosophy and objectives of the elementary school physical education program. Emphasis on the role and responsibilities of the classroom teacher in the program with laboratory experiences teaching children. Either semester

PE 322 Physical Activities for Early Childhood (3 crs.)

Emphasis will be placed on gaining knowledge about physical growth and the stages of motor development. The movement education approach will be utilized to integrate physical education with the early childhood curriculum. Spring semester

PE 324 Physical and Developmental Activities for the Disabled and Handicapped (3 crs.)

The course consists of basic knowledge and techniques to plan, implement, and evaluate physical and developmental activities and programs for special populations. Topics include a study of sensory disorders, learning disabilities, mental retardation, cerebral palsy and body mechanics. The diagnostic-prescriptive process will be stressed along with the latest screening, assessment and evaluation tools and techniques. (Prerequisite: PE 217) Either semester

PE 326 The Movement Approach to Teaching Physical Education (3 crs.)

A study of the movement approach to teaching physical education to children with emphasis on developing content and methodology. Student will engage in pre-practicum experience with children in an on-campus setting focusing on: developing, analyzing, and improving teaching behavior and developing teaching materials. (Prerequisite: PE 225 or consent of the Instructor)

PE 328 Movement in the Creative Arts (3 crs.)

Dance, the art of movement, in its relationship to drama, music, speech, and the visual arts. Creative experiences in each of these areas directed by divisional staff.

PE 329 Physical Education for Middle and Junior High School Children (3 crs.)

This course will focus on program objectives, strategies and analysis of teaching physical education in the middle and junior high school. Course will include pre-practicum experiences focusing on program content, progressions and teaching skills commensurate with the play education model. (Prerequisite: PE 101, PE 217) Either semester

PE 330 Theory and Principles of Leisure (3 crs.)

A course designed to provide the student an opportunity to explore the impact of leisure on the society and the individual. Various economic, educational, social and psychological phenomena and the force each has on leisure is examined. Offered alternate years

PE 331 Outdoor Recreation Resources (3 crs.)

Study of the design, effective use, management and programs of outdoor recreation and conservation areas. Fall semester

PE 332 Leadership and the Group Process (3 crs.)

This course provides theory and experiences necessary to develop an understanding of leadership, group dynamics and effective group skills. Either semester

PE 333 Camp Leadership and Organized Camping (3 crs.)

A study of organized camps and camping programs with particular emphasis on program planning, selection and training of staff, and administrative details in organized camping. Offered alternate years

PE 340 Principles and Practices in Athletic Training (3 crs.)

Application of joint and musculoskeletal anatomy in the recognition, evaluation and management of athletic injuries. (Prerequisite: PE 240) Fall semester

***PE/CT 357 Dance Production Theory (2 crs.)**

This course provides the opportunity to choreograph and plan the presentation of a major dance work. Lectures and practical assignments in choreography and stagecraft for dance will result in a plan for a dance piece. (Prerequisite: CT/PE 226 and CT/PE 325, or permission of the Instructor) Fall semester

***PE/CT 358 Dance Production Techniques (1 cr.)**

This course is an extension of CT/PE 357, Dance Production Theory, and provides an opportunity for students to set a choreographed work for dancers and to rehearse it for presentation. Spring semester

PE 390 Field Based Pre-Practicum — Physical Education (3 crs.)

Designed to provide the student with an introduction to teaching physical education in an off-campus setting. Either semester

PE 400 Physiology and Techniques of Strength Fitness (3 crs.)

To provide students with a knowledge of the effects of various heavy resistance exercise training protocols on musculo-skeletal integrity, metabolic capacity and various specific tissue characteristics in the human body. Thus, the course necessarily considers micro-anatomical and physiological variations associated with general strength conditioning programs, body building, olympic lifting, power lifting, circuit training, variable resistance, isotonic, isokinetic and isometric resistance training. Fall semester

PE 401 Physiology of Exercise (3 crs.)

Includes the study of various systems, their interrelationships and adjustments during exercise and as a result of training. Emphasis is on current research findings and what remains to be discovered in man as a moving being. Two hours lecture and two hours laboratory. (Prerequisite: BI 280) Either semester

PE 402 Physiology of Exercise II (3 crs.)

An in-depth study of human physiological principles as applied to exercise, sport activity and research. Special emphasis is on neurological control, exercise in relation to cardiovascular disease, and factors affecting performance. (Prerequisite: PE 401 or equivalent) Offered alternate semesters

PE 403 Cardiovascular Function, Analysis and Evaluation (3 crs.)

Includes cardiovascular dynamics as studied through anatomy, electro-physiology, and the pathology of the cardiovascular system. Specific emphasis will be placed on the analysis of the cardiovascular system through non-invasive methods of evaluation. (Prerequisite: PE 401 or equivalent) Offered alternate semesters

*Offered for credit in both the Health, Physical Education and Recreation and the Speech Communication, Theatre Arts and Communication Disorders Departments.

PE 404 Exercise Prescription and Cardiac Rehabilitation (3 crs.)
This course focuses on the development of individualized prescriptive exercise programming with regard to stress test evaluations and individual contra-indications. Environmental conditions along with intensity, duration and frequency of physical activity will be studied in order to develop programs. Special attention will be given to high-risk populations and post-cardiac patients. *(Prerequisite: PE 401 or equivalent)* Offered alternate semesters

PE 412 Planning, Implementation, and Evaluation in Teaching Physical Education (6 crs.)
Designed to develop teaching competencies related to the planning, implementation, and evaluation aspects of instructional programs in physical education. To provide methods of enhancing teacher-pupil behaviors and creative learning environments. *Either semester*

PE 414 Coaching (3 crs.)
The application of teaching and learning principles as related to the player, team, coach and the athletic program. Areas to be included will be psychology and philosophy of coaching, organization and administration of the program, coaching techniques, conditioning and evaluative procedures. *Either semester*

PE 415 Methods and Techniques in Coaching Baseball (1 cr.)
Offensive and defensive fundamentals, offensive and defensive team play and administration. *Spring semester*

PE 416 Methods and Techniques in Coaching Basketball (1 cr.)
The theory and practice of basketball coaching; including the study of offensive and defensive systems, drills, training and conditioning of basketball squads. *Spring semester*

PE 417 Methods and Techniques in Coaching Football (1 cr.)
History of football, fundamentals of line and backfield play, team defense and offense, field generalship, scouting, athletic injuries, and study of rules. *Spring semester*

PE 418 Methods and Techniques in Coaching Field Hockey (1 cr.)
Theory and practice of coaching field hockey, including skills, strategies, conditioning and coaching responsibilities. *(Prerequisite: PE 132 or comparable experience)* Offered alternate years

PE 419 Methods and Techniques of Coaching Volleyball (1 cr.)
Theory and practice of coaching volleyball, including skills, conditioning, offensive and defensive strategies. *(Prerequisite: PE 131 or comparable experience)* Offered alternate years

PE 421 Methods and Techniques in Coaching Soccer (1 cr.)
Teaching the skills of kicking, trapping, heading, dribbling, tackling, throwing; defensive and offensive soccer. *Fall semester*

PE 425 Officiating Baseball (1 cr.)
Rules and techniques in officiating baseball; organizations of officials; practical experience. *Offered alternate years*

PE 426 Officiating Basketball (1 cr.)
Techniques of officiating basketball. Practical as well as theoretical examinations are included with opportunity to earn a recognized rating. *Offered alternate years*

PE 427 Officiating Football (1 cr.)
Rules and techniques in officiating football; organizations of officials; practical experience. *Offered alternate years*

PE 428 Officiating Soccer (1 cr.)
Rules and techniques in officiating soccer; organizations of officials; practical experience. *Offered alternate years*

PE 429 Officiating Field Hockey (1 cr.)
Techniques of officiating field hockey. Practical as well as theoretical examinations are included with opportunity to earn a recognized rating. *Offered alternate years*

PE 431 Officiating Volleyball (1 cr.)
Techniques of officiating volleyball. Practical as well as theoretical examinations are included with opportunity to earn a recognized rating. *Offered alternate years*

PE 435 Planning and Conducting a Community Aquatic Program (3 crs.)
This course will prepare students to utilize all available resources in planning and implementing aquatic programs for communities and other agencies. *(Prerequisite: Any Bridgewater State College swimming or water safety course, or evidence of successful completion of the swimming or water safety program offered by a recognized agency such as Red Cross or YMCA)* Fall semester

PE 445 Adventure Programs (3 crs.)
The planning and development of adventure and challenge programs in physical education and related disciplines. Students will be involved in theoretical and practical aspects of adventure curriculums and will be expected to participate in a variety of activities, primarily in the out of doors. Topics will include backpacking, rock climbing, orienteering, winter camping, survival, and ropes course activities. *Either semester*

PE 446 Advanced Adventure Programs (3 crs.)
This course builds on basic adventure program knowledges and skills and includes the development of new knowledge and skills of an Outward Bound nature, culminating in a 7-day expedition which will take place during an academic vacation period. *(Prerequisite: PE 445 or equivalent experience)* Offered once per year

PE 447 Ropes Course Use and Construction (3 crs.)
Instruction in the theoretical and practical aspects of Ropes Course use and instruction and experience in constructing Ropes Course elements.

PE 450 Therapeutic Modalities, and Rehabilitation Methods
Classroom course with laboratory use covering the principles, techniques, and legal aspects of planning therapeutic exercise programs and the application of therapeutic modalities. *(Prerequisite: PE 240)*

PE 451 Theoretical and Practical Use of Wheelchairs for Mobility, Sports and Leisure Activity (3 crs.)
Designed for the professional who works with the disabled and handicapped. The theoretical and practical use of wheelchairs for mobility and participation in sports, leisure activities, as well as the importance of such participation for rehabilitation will be discussed and analyzed. *Offered once per year*

PE 460 Park and Recreation Facilities (3 crs.)
A study of planning, development, and maintenance of parks and recreation facilities; includes inspection of areas and preparation of plans. *Offered once in three years*

PE 461 Organization and Administration of Public Recreation (3 crs.)
Organization and administration of recreation at federal, state and local levels; legislative provisions, governmental control, financing, budget, personnel, departmental organization, and administrative practices. *Fall semester*

PE 462 Programming for Recreation and Leisure (3 crs.)
The opportunity to plan, conduct, evaluate and observe a wide variety of both on-campus and community-based programs and activities. *Spring semester*

PE 463 Field Problems in Recreation (3 crs.)

A study of selected problems in various areas of recreation through guided individual and group field experience. (*Prerequisite: Permission of the Instructor*) *Spring semester*

PE 465 Theory and Development of Play (3 crs.)

Provides theoretical foundations for play based on classical and modern theories and on research findings. *Either semester*

PE 466 Play Space Design (3 crs.)

To understand the effects of the child's play environment on his or her total development. An investigation of play design principles will enable students to suggest alternative play environments based on children's needs. *Spring semester*

PE 470 Sociology of Sport (3 crs.)

Examination and analysis of the types of forces at work in American society and how they relate to sports. Among the topics to be included are the influences of our cultural heritage, philosophy of education, politics, religion, economy, ethnics, mass media, and internationalism. Lectures, readings, class discussions, and written assignments will be directed toward enhancing the individual's understanding of the values of sport in our society yesterday, today, and tomorrow. (*Prerequisite: 3 credits in Sociology*) *Offered once per year*

PE 475 Games Leadership Workshop (3 crs.)

This workshop is designed for people interested in building relationships through play in games. The games emphasis will move away from the familiar competitive, play experience to the non-competitive, supportive and cooperative play experience. Participants will develop a repertoire of games suitable for all ages. Leadership competence will provide participants with the tools to take games to others in schools, business, community groups and the family.

PE 481 Organization and Administration of School Athletics (3 crs.)

Athletic policies and regulations on the local and state levels, administrative plans, contest management, the purchase and care of equipment, athletic awards, finance and budget, athletic facilities, scheduling, public relations, the intramural program, and trends in interscholastic athletics. *Offered once per year*

PE 484 Physical Education for Special Needs Children and Youth (3 crs.)

The planning and development of physical education programs considered appropriate to the needs, interests and abilities of exceptional children and youth. Emphasis will be placed on the contribution that physical education can make to the education and well being of the physically, mentally and emotionally handicapped.

PE 490 Seminar in Athletic Training (2 crs.)

Study of various topics confronting an athletic trainer. These experiences are developed through lectures, demonstrations, and discussions with authorities, including physicians and lawyers, in the areas of concern. (*Prerequisite: PE 240 and PE 340*)

PE 492 Practicum in Student Teaching — Physical Education (15 crs.)

Full-time teaching for one semester with supervision provided by members of the department faculty. (*Prerequisite: Acceptance and good standing in Teacher Preparation Program and satisfactorily completed Department Teacher Preparation Program courses*) *Either semester*

PE 494 Advanced Study of Motor Programs for Special Needs Children and Youth (3 crs.)

Included is the study of nutritional disturbances, emotionally disturbed, socially maladjusted, disadvantaged, and chronic medical problems. A culmination of professional experiences to include a study of per-

ceptual motor programs, behavior modification, advanced techniques of motor assessment and grantmanship. The role of the adapted physical educator as a resource and itinerant teacher will be presented. (*Prerequisite: Undergraduate: PE 217 and PE 324; Graduate: PE 484 and PE 508 or consent of the Instructor*) *Fall semester*

PE 498 Field Experience in Physical Education (3-15 crs.)

A field experience offers qualified students the opportunity to gain practical experience within their major. Placements are made in both public and private agencies and are designed to complement a student's concentration within the major. (*Prerequisite: Consent of the Department*) *Either semester*

PE 499 Directed Study in Physical Education (1-3 crs.)

Open to all juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. (*Prerequisite: Consent of the Department*) *Either semester*

Other Approved Courses:

PE 220 Expressive Movement

PE 310 Physical Education for Adults

PE/CT 321 Creative Dance for Children

PE/CT 352 Dance History

PE 410 Physical Education in Agency Programs

PE 420 Methods and Techniques in Coaching Lacrosse

PE 422 Methods and Techniques in Coaching Track and Field

PE 423 Methods and Techniques in Coaching Swimming

PE 424 Methods and Techniques in Coaching Wrestling

PE 432 Officiating Lacrosse

PE 439 Analysis and Application of Teacher Behavior

PE 440 Scientific Basis of Coaching

PE 448 Man and Movement: Humanistic Perspectives in Sport and Physical Education

PE 471 Psycho/Social Aspects of Sports

PE 479 Problems in Physical Education and Athletics

PE 482 Public Relations in Physical Education

PE 485 Integration of Physical Activity: Home, School and Community

PE 487 Psychological Aspects of Coaching

PE 502 Research (credit to be arranged)

Original research undertaken by the graduate student in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

PE 503 Directed Study (credit to be arranged)

Designed for the graduate student who desires to study selected topics in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

PE 505 Principles and Techniques of Supervising Student Teachers in Physical Education (3 crs.)

A course designed to provide physical education teachers with knowledge relating to the nature of supervision, the role of the cooperating teachers and their impact on student teachers, methods for observing and recording teaching behaviors and suggestions for helping student teachers implement instructional strategies. Theoretical and practical experience will be provided. (*Prerequisite: Public School Teaching*)

PE 506 Philosophy and Principles of Physical Education (3 crs.)

Philosophical inquiry into the discipline of physical education including a study of trends and forces in education as they affect the field. (*Prerequisite: 6 credits in Physical Education*)

PE 507 The Child and His Movement Behavior (3 crs.)

Current concepts and trends related to movement experiences of children with emphasis on developmental movement, and learning. (Prerequisite: 12 credits in Physical Education or permission of the Instructor)

PE 508 Motor Learning (3 crs.)

Integration of biological and psychological concepts in the acquisition of motor skills including environmental conditions, developmental factors and learning theories. (Prerequisite: 3 credits in Psychology)

PE 510 Concepts of Curriculum Development (3 crs.)

Current educational trends, theories relative to physical education and the development of curricular models, with a focus on the needs of today's society. (Prerequisite: 9 credits in Physical Education or permission of the Instructor)

PE 511 Research Methods in Physical Education (3 crs.)

This course will develop competencies needed to both produce and consume research in Physical Education and allied areas. Via the development of a research proposal, students will gain an understanding of such research techniques as problem formulation, literature review, sampling, hypothesis construction, research design, instrumentation, and data analysis.

PE 512 Administration of Physical Education (3 crs.)

Application of administrative principles to the physical education program. (Prerequisite: 12 credits in Physical Education or permission of the Instructor)

PE 513 Educational Games for Elementary and Middle School Level (3 crs.)

A comprehensive study of the movement approach to educational games with emphasis on analysis of games. Progression utilizing thematic approach and curriculum development will also be presented.

PE 514 Improving Teaching Effectiveness in Physical Education (3 crs.)

The course will focus on the techniques for observing and analyzing teacher and student behavior, the application of classroom management techniques and the study of teacher effectiveness research. A format through which teachers can gather data for use in self analysis and improvement of instruction will be examined.

PE 515 Exercise Circulation: Mechanisms and Morphology (3 crs.)

This course provides students with a knowledge and understanding of the acute and chronic effects of exercise on the peripheral and central circulatory systems. It deals with exercise-related cardiovascular dynamics, effects of frequently used medications and growth responses induced by regular exercise as well as abnormal physiological responses to exercise. (Prerequisite: PE 401)

PE 520 Health Fitness Program Planning and Management (3 crs.)

Designed to address strategies essential to the development of successful exercise and health fitness programs. Emphasis will be placed on program development, motivational techniques and administrative considerations. (Prerequisite: At least one course in exercise physiology or permission of the Instructor)

PE 521 Child's Play — A Learning Medium (3 crs.)

Provides a vehicle for discovering the relationship between the developing pre-school child and the world of play. Adults involved with children in any capacity will become familiar with the contributions of play to the child's mastery of self and the environment. The effect of play on psychomotor, affective and cognitive development will be considered.

PE 522 Sports Programs for the Child Athlete (3 crs.)

The focus of this course will be on the social, psychological and physical impact of sport and competition on the child athlete. At the conclusion of the course, participants will be able to design a model sports program for young children.

PE 540 Sports Injuries: Prevention and Care (3 crs.)

An introduction into the theories and principles surrounding the care and prevention of athletic injuries. Classroom study will include pre-season conditioning programs, protective equipment, acute emergency injury and illness care and prophylactic techniques.

PE 544 Applied Laboratory Techniques in Exercise Science (3 crs.)

Students will utilize a number of laboratory techniques to assess fitness capabilities and health status of normal subjects. Focus will be on standardization of procedures and collection of reliable and valid data. An additional concern will be clear representation and interpretation of classical techniques used to routinely assess physical fitness in the laboratory.

PE 545 Physical Conditioning and Training in Sports and Exercise (3 crs.)

This course is designed to provide the sport practitioner, i.e., the coach, athlete, team trainer, and physical educator, with a basic understanding of the physiologic principles underlying the physical conditioning process. Methods of planning, implementing and evaluating training programs will be the main focus of attention. (Prerequisite: Introductory course in exercise physiology or permission of the Instructor)

PE 550 Sports Medicine for the Athletic Woman (3 crs.)

This course will focus on today's athletic woman and will include current concepts of conditioning programs, management of athletic injuries/conditions relevant to women in sports.

PE 595 Internship in Physical Education (1-6 crs.)

An internship offers qualified students the opportunity to gain substantial practical experience within their major. Placements are designed to complement a student's program concentration. (Prerequisite: 12 graduate credits of physical education and permission of advisor)

Physical Education Activity Courses

Physical Education Activity courses are offered on a quarter or semester basis for the following credit: 1.0 credit for a three-hour quarter course; 2.0 credits for a three-hour semester course. A maximum of six credit hours in physical education courses may be used toward graduation (this does not apply to physical education majors).

PE 131 Volleyball I — Beginner

Concepts and fundamental skills of volleyball, team play, rules and game strategy. *Either semester*

PE 132 Field Hockey I

Development of basic skills, concepts and strategies for playing the game with understanding and application of rules. *Either semester*

PE 133 Basketball — Beginner

Fundamental skills of basketball, elementary offense and defense strategies. *Either semester*

PE 140 Women's Lacrosse

Fundamental skills, strategies, rules and knowledge for playing the women's game.

PE 141 Soccer

Fundamental skills of soccer including: kicking techniques, trapping, heading, offensive and defensive strategy and rules of the game. *Either semester*

PE 145 Flag Football

Concepts and fundamental skills of the game including rules and strategy of play. *Either semester*

PE 150 Beginner Swimming

Basic aquatic orientation. Emphasis on developing basic swimming strokes, survival floating for the shallow water swimmer. *Either semester*

PE 152 Senior Life Saving

Theory and skills of senior life saving. Satisfactory completion of the course entitles students to Red Cross Senior Life Saving Certificate. (Prerequisite: Swimming II or comparable experience) *Either semester*

PE 153 Jazz Dance

This course provides experiences with a variety of jazz styles, including lyric and percussive. Emphasis is on performance of choreographed routines and mastery of isolations and syncopations. Formerly PE 165. *Either semester*

PE 154 Ballet

This semester course is aimed at the mastery of basic ballet technique including work at the barre, center adagio and allegro, and across the floor combinations. Formerly PE 166. *Fall semester*

PE 157 Movement and Relaxation I

Theories and techniques of Yoga and relaxation, and basic movement related to daily activities. *Offered alternate years*

PE 160 Survey of Dance

Introduction to Dance as the Art of Movement, exploration and expressive use of force, time, and space, elements common to Dance and all movement in daily activities, sports, drama and music. *Either semester*

PE 161 Folk Dance

Folk dance terminology, formations, and dance steps. Course will include insight into the background and customs of the people in the countries where the dances originated. *Either semester*

PE 162 Creative Modern Dance I

Problems in basic forms, movement impulse, design in movement, construction and use of musical instruments in dance. Emphasis on increased awareness, freedom and control of the individual and group. *Either semester*

PE 163 Aerobic Dance

A series of easy to learn dances that combine the health and figure benefits of jogging with the fun and vigor of dancing. It is recommended that participants should be in good physical condition and anyone over 35 years have a physical examination prior to enrolling in the class. *Either semester*

PE 164 Square Dance

An introduction to the contemporary square dance. *Either semester*

PE 170 Bowling I — Beginner

Concepts and fundamentals of bowling: approach, delivery, follow through, and strategy of play. \$3.00 per week fee, approximately. *Either semester*

PE 173 Archery I — Beginner

Concepts and fundamental skills of archery including methods of aiming, scoring, and introduction to novelty events. *Either semester*

PE 174 Tennis I — Beginner

Concepts and fundamental skills of tennis including forehand, backhand, serve, rules and strategy of singles and doubles play. *Either semester*

PE 175 Golf I — Beginner

Concepts and fundamental skills of the game including rules and scoring. A minimal fee of approximately \$3.00 for use of facilities will be charged. *Either semester*

PE 176 Badminton I — Beginner

Fundamental skills, rules and game concepts in order to prepare students for satisfying play experiences. *Either semester*

PE 182 Ski Touring

Introduction to basic skills and knowledge of Ski Touring. Instruction in choosing equipment, waxing, touring techniques and conditioning. *Offered alternate years*

PE 186 Track & Field

Skills of track and field including running, jumping, throwing events, and their progressions. *Offered once per year*

PE 188 Jogging and Road Running

An introduction to jogging and road running. Emphasis on knowledge and application of training technique and running mechanics, as they apply to the spectrum of running from jogging to road racing and marathoning. *Fall semester*

PE 190 Conditioning

Concepts, exercises and activities related to the development of physical fitness, including isometrics, weights and running. *Either semester*

PE 194 Wrestling

Fundamentals of college wrestling with emphasis on mat skills, rules, scoring and strategy. *Offered once in three years*

PE 196 Fencing I — Beginner

Concepts and fundamental skills of fencing including defense, feints, lunges, parries, reposts, and disengages. *Offered alternate years*

PE 202 Orienteering

Development of skills in the use of maps and compass as related to the sport of orienteering. *Offered alternate years*

PE 203 Basic Rock Climbing

Development of fundamental skills and techniques used in rock climbing with special attention to belaying and safety considerations. *Either semester*

PE 231 Volleyball II — Intermediate

A follow-up of Volleyball I with emphasis on increased proficiency of performance and game strategy. (*Prerequisite: Volleyball I or comparable experience*) *Either semester*

PE 233 Basketball II — Intermediate

A follow-up of Basketball I with emphasis on advanced strategy and game play. (*Prerequisite: Basketball I or comparable experience*) *Either semester*

PE 235 Rhythmic Activities: Programming For All Ages

Designed to provide a basic understanding of rhythmical movements and their application for programming for all age groups. The course will include a variety of expressive locomotor, non-locomotor and manipulative movements. *Either semester*

PE 244 Baseball/Softball

Concepts and fundamental skills of the games including rules and strategy of play. *Either semester*

PE 250 Intermediate Swimming

Continued emphasis on developing basic swimming skills, strokes, diving, survival techniques. This course is for the deep water swimmer. (*Prerequisite: PE 150 or comparable experience*) *Either semester*

PE 254 Water Polo

Includes basic movements, skills, and maneuvers of the sport of water polo with emphasis on offensive and defensive fundamentals and strategies, practical drills, rules, and regulations. *Offered once per year*

PE 260 Youth Sports

This course is designed to prepare students to plan, organize and implement youth sports programs. Students will gain insight into the research relating to competition, conditioning and equipment selection. *Spring semester*

PE 270 Bowling II — Intermediate

A follow-up of Bowling I with emphasis on increased skill and consistency. \$3.00 per week fee, approximately. (*Prerequisite: Bowling I or comparable experience*) *Either semester*

PE 274 Tennis II — Intermediate

A follow-up of Tennis I with emphasis on volley, lob, smash, and game strategy. (*Prerequisite: Tennis I or comparable experience*) *Offered alternate years*

PE 276 Badminton II — Intermediate

A follow-up of Badminton I with emphasis on advanced skills, singles and doubles play, and game strategy. (*Prerequisite: Badminton I or comparable experience*) *Offered alternate years*

PE 278 Bicycle Touring

An understanding and appreciation for the sport of cycling through the application of body mechanics, cycling techniques, knowledge of multigear bikes and the many aspects of touring. Students must have a 10-speed bike. *Either semester*

PE 280 New Games

This course is designed to introduce the philosophy of new games and develop a repertoire of non-competitive, cooperative and collaborative games suitable for a variety of age groups. The students will experience the psychomotor and affective components embodied in the new games concept. *Either semester*

PE 285 Gymnastics

Concepts and fundamental skills of vaulting, balance beam, parallel bars, uneven parallel bars, high bar, side horse, rings and free exercise. *Offered alternate years*

PE 350 Advanced Swimming

Emphasis on developing high level of aquatic skill through instruction in advanced strokes, springboard diving, swimming turns, and survival techniques. Specialized aquatic activities may be offered. (*Prerequisite: PE 250 or comparable experience*) *Either semester*

PE 354 Scuba Diving

The fundamentals of skin and scuba diving. Emphasis on safety using the self contained underwater breathing apparatus. (*Prerequisite: Swimming II or comparable experience, physical examination*) *Either semester*

PE 355 Synchronized Swimming

Swimming and diving skills and stunts choreographed to music. (*Prerequisite: Swimming II or comparable experience*) *Fall semester*

PE 356 Canoeing I

Instruction in fundamental skills of canoeing, and small craft safety techniques. *Offered alternate years*

Other Approved Courses:

PE 134 Self Defense
PE 189 Skiing I -- Beginner
PE 232 Field Hockey II
PE 242 Lacrosse II
PE 257 Movement and Relaxation II
PE 258 Dance Technique
PE 262 Creative Modern Dance II
PE 273 Archery II -- Intermediate
PE 275 Golf II -- Intermediate
PE 296 Fencing II -- Intermediate
PE 364 Square Dance Calling
PE 374 Tennis III

Department of High School, Middle School, and Adult Education

Chairperson: Associate Professor Leo McGuirk
Professor: Robert E. Fitzgibbons, Robert L. Mogilnicki
Associate Professors: David Englund, Paul Kelley,
Raymond ZuWallack

Undergraduate Programs

High School Education

The Department of High School, Middle School, and Adult Education provides students with the theoretical and practical knowledge necessary for becoming effective teachers at the appropriate level. The curriculum includes a detailed consideration of contrasting modes and strategies of teaching and of the psychological theories and philosophical reasons justifying their appropriateness. Theory is related to practice by means of microteaching, role-playing, other simulation activities and teaching in area schools. Students gain additional practical experience through tutoring students, assisting or observing teachers, and student teaching at the appropriate level in area schools.

Middle School Education

The Department offers a major in Elementary Education with a concentration in Middle School Education for students who desire to become certified at the middle school level (grades 5-9).^{*} This concentration is offered through, and administered by, the Department of High School, Middle School, and Adult Education.

In addition to completing the requirements for the major in Elementary Education with a concentration in Middle School Education, students may wish to qualify for a second major in an academic discipline. If so, please contact the appropriate academic department for details and additional requirements if any.

All students in a teacher education program must apply for admission to, and be accepted in, the Teacher Education Program. Information on the Teacher Education Program may be found in the introductory section of the Division of Professional Education.

The Middle School Education concentration is designed for students desiring to qualify for one of the following teaching certificates:^{*}

Middle School Teacher	Gr. 5-9
Teacher of Art	Gr. 1-9
Teacher of Biology	Gr. 5-9
Teacher of Chemistry	Gr. 5-9
Teacher of Earth Science	Gr. 5-9
Teacher of English	Gr. 5-9
Teacher of French	Gr. 5-9
Teacher of General Sciences	Gr. 5-9
Teacher of Geography	Gr. 5-9
Teacher of History	Gr. 5-9
Teacher of Mathematics	Gr. 5-9
Teacher of Mathematics and Science	Gr. 5-9
Teacher of Physics	Gr. 5-9
Teacher of Social Studies	Gr. 5-9
Teacher of Spanish	Gr. 5-9

^{*}These programs are subject to registration with, and subsequent approval by, the Massachusetts Department of Education. Students successfully completing these programs prior to this approval must apply for certification through the individual transcript process.

Elementary Education with Middle School Education Concentration

All students must complete the following core requirements.

Core Requirements:

- ED 221 Teaching in the Middle School I
- ED 222 Teaching in the Middle School II
- ED 230 Educational Psychology
- ED 371 Evaluating Teaching and Learning in the Middle School
- ED 480 Philosophy of Education
- ED 491 Student Teaching Practicum — Middle School

In addition to completing the core requirements, students must also complete **one** of the following sets of major cognate requirements for the major, thus qualifying for the teaching certificate indicated.

Middle School (Teacher 5-9)

Major requirements (in addition to the core):

ED 450 Strategies of Teaching Social Studies in the Middle School

ED 456 Strategies of Teaching Mathematics in the Middle School

Cognate requirements:

SE 213 The Special Needs Learner in the Middle School

EE 331 Strategies of Teaching Reading in the Middle School

EE 341 Strategies of Teaching Language Arts in the Middle School

One course in Art

One course in Biology

One course in Earth Science

One course in English Composition

One course in Geography as a Social Science

One course in Health

Two courses in History

One course in Literature

Two courses in Mathematics

One course in Physical Education

One course in Physics

One course in Speech

Please note: Many of the requirements listed above will also satisfy the General Education Requirements.

Students intending to qualify for the Middle School Teacher Certificate must also complete a total of 15 semester hours of course work in one of the following areas: Reading, Writing, Literature, Mathematics, Science, or Social Studies.

Any appropriate courses taken to complete General Education Requirements or cognate requirements may be used to satisfy this 15 semester hour requirement.

All courses must be approved by the student's advisor.

Art (Teacher of Art 1-9)

Major requirements (in addition to the core):

ED 459 Strategies of Teaching Art in the Middle School

Cognate requirements:

SE 213 A Special Needs Learner in the Middle School

AR 125 Drawing I

AR 130 Two-Dimensional Design

AR 140 Three-Dimensional Design

AR 201 Art Survey: Prehistoric, Ancient and Medieval

AR 202 Art Survey: Renaissance, Baroque and Modern

AR 225 Drawing II

AR 230 Painting I

AR 240 Sculpture I

AR 250 Intaglio Printmaking I

AR 270 Ceramics

Art Elective

Art History Elective

Biology (Teacher of Biology 5-9)

Major requirements (in addition to the core):

ED 461 Strategies of Teaching Science in the Middle School

Cognate requirements:

SE 213 The Special Needs Learner in the Middle School

BI 100 General Principles of Biology

BI 104 Animal Morphology

One course from the following:

BI 282 Comparative Chordate Anatomy

BI 284 Invertebrate Zoology

BI 240 Plant Morphology

BI 321 Genetics

BI 341 Plant Physiology

BI 373 Animal Physiology

BI 425 Ecology

BI 428 Microbiology

Two courses in Chemistry or Physics

One course in Mathematics

Chemistry (Teacher of Chemistry 5-9)

Major requirements (in addition to the core):

ED 461 Strategies of Teaching Science in the Middle School

Cognate requirements:

SE 213 The Special Needs Learner in the Middle School

CH 100 Computer Science in Chemistry

Either the pair CH 141 and CH 142 or CH 131 and CH 132:

CH 141 Chemical Principles I

CH 142 Chemical Principles II

CH 131 General Chemistry I

CH 132 General Chemistry II

CH 242 Intermediate Inorganic Chemistry

CH 343 Organic Chemistry I

CH 344 Organic Chemistry II

CH 381 Physical Chemistry I

CH 382 Physical Chemistry II

Either the pair MA 101 and MA 102 or MA 103 and MA 104:

MA 101 Calculus I

MA 102 Calculus II

MA 103 Elements of Calculus I

MA 104 Elements of Calculus II

PH 243 General Physics I

Earth Science (Teacher of Earth Science 5-9)

Major requirements (in addition to the core):
ED 461 Strategies of Teaching Science in the Middle School

Cognate requirements:
SE 213 The Special Needs Learner in the Middle School
ES 100 Physical Geology
ES 101 Historical Geology
ES 284 Geomorphology
One course from the following:
 ES 301 Astronomy I
 ES 302 Astronomy II
One course from the following:
 ES 305 Introduction to Oceanography I
 ES 306 Introduction to Oceanography II
GE 203 Meteorology
ES 372 Mineralogy
ES 463 Petrology
One Earth Science Elective
MA 103 Elements of Calculus I
MA 104 Elements of Calculus II
One course in Biology or Physics

English (Teacher of English 5-9)

Major requirements (in addition to the core):
ED 451 Strategies of Teaching English in the Middle School

Cognate requirements:
SE 213 Special Needs Learner in the Middle School
EN 101 Writing I
EN 301 Writing and the Teaching of Writing
EN 323 Introduction to Linguistics
One English Literature course before 1800
One English Literature course after 1800
One American Literature course
One Shakespeare course
One World Literature course
One English Seminar course
Three English electives

French (Teacher of French 5-9)

Major requirements (in addition to the core):
ED 458 Strategies of Teaching Foreign Language in the Middle School

Cognate requirements:
SE 213 The Special Needs Learner in the Middle School
LF 181 Advanced French I
LF 182 Advanced French II
LF 201 French Literature of the Middle Ages
LF 252 Sixteenth Century French Literature
LF 281 French Conversation and Civilization I
LF 282 French Conversation and Civilization II
LF 301 Seventeenth Century French Literature
LF 352 Eighteenth Century French Literature
LF 381 Applied French Linguistics and Phonetics
LF 382 Advanced French Composition and Grammar
LF 401 Nineteenth Century French Literature
LF 451 Twentieth Century French Literature

General Science (Teacher of General Science 5-9)

Major requirements (in addition to the core):
ED 461 Strategies of Teaching Science in the Middle School

Cognate requirements:
SE 213 The Special Needs Learner in the Middle School
Two courses in Biology
Two courses in Chemistry
Two courses in Earth Science
Two courses in Physics
Two Science electives
MA 103 Elements of Calculus I
MA 104 Elements of Calculus II
All courses must be approved by the student's advisor.

Geography (Teacher of Geography 5-9)

Major requirements (in addition to the core):
ED 453 Strategies of Teaching Geography in the Middle School

Cognate requirements:
SE 213 The Special Needs Learner in the Middle School
GE 100 Physical Geography
GS 110 Human Geography
GE 216 Cartography
GE 204 Climatology
GS 362 Economic Geography
GS 490 Seminar in Geography
One course from the following:
 GS 353 Urban Geography
 GS 473 Political Geography
Two Physical Geography or Earth Science electives
One Field Course from the following:
 GE 217 Air Photo Interpretation — Surveying
 GE 354 Field Methods in Urban Geography
 GS 363 Locational Analysis
 GE 418 Thematic Mapping
MA 103 Elements of Calculus I
MA 110 Elementary Statistics I

History (Teacher of History 5-9)

Major requirements (in addition to the core):

ED 450 Strategies of Teaching Social Studies in the Middle School

Cognate requirements:

SE 213 The Special Needs Learner in the Middle School

Two sequential 100 level History courses

HI 221 United States History and Constitutions to 1865

HI 222 United States History Since 1865

One 300-400 level course in Ancient History

One 300-400 level course in European History

HI 492 Senior Seminar in History

Three 300-400 level courses in United States History

One course in Regional History

One 300-400 level course in Relationship or one course from the following:

ID 200 Introduction to Canadian Studies

ID 220 Introduction to American Studies

ID 420 American Studies Seminar

SS 300 Geography and History of Mexico

Mathematics (Teacher of Mathematics 5-9)

Major requirements (in addition to the core):

ED 456 Strategies of Teaching Mathematics in the Middle School

Cognate requirements:

SE 213 The Special Needs Learner in the Middle School

CS 101 Computer Science I

MA 101 Calculus I

MA 102 Calculus II

MA 201 Calculus III

MA 202 Linear Algebra

MA 301 Abstract Algebra

MA 200 Probability and Statistics

One course in Algebra, Advanced Calculus, or Foundations

One course in Probability, Statistics, or Applied Mathematics

One course in Geometry

One elective in Higher Mathematics

Mathematics and Sciences**(Teacher of Mathematics and Sciences 5-9)**

Major requirements (in addition to the core):

ED 456 Strategies of Teaching Mathematics in the Middle School

ED 461 Strategies of Teaching Science in the Middle School

Cognate requirements:

SE 213 The Special Needs Learner in the Middle School

One course in Biology

Three courses in Physical Science

This requirement may be satisfied by completing any one of the following combinations:

Two courses in Chemistry and one course in Physics

Two courses in Physics and one course in Chemistry

One course each in Chemistry, Earth Science, and Physics
Three courses in Mathematics which include the study of algebra, geometry, probability and statistics, and number theory.

Four courses in one or more of the above fields.

Physics (Teacher of Physics 5-9)

Major requirements (in addition to the core):

ED 461 Strategies of Teaching Science in the Middle School

Cognate requirements:

SE 213 The Special Needs Learner in the Middle School

PH 243 General Physics I

PH 244 General Physics II

One course from the following:

PH 375 Wave Theory

PH 385 Optics

PH 388 Electricity and Magnetism

PH 389 Mechanics

PH 392 Digital Electronics

PH 403 Mathematical Physics

One Physics elective

MA 101 Calculus I

MA 102 Calculus II

Social Studies (Teacher of Social Studies 5-9)

Major requirements (in addition to the core):
ED 450 Strategies of Teaching Social Studies in the Middle School

Cognate requirements:
SE 213 The Special Needs Learner in the Middle School
Two sequential 100 level History courses
HI 221 United States History and Constitutions to 1865
HI 222 United States History Since 1865
One 300-400 level course in non-United States History
HI 492 Senior Seminar in History
PO 172 American Government: Federal System
One course from the following:
PO 277 American Government: State and Local Government
PO 260 International Relations
EC 101 Principles of Microeconomics
EC 102 Principles of Macroeconomics
GS 110 Human Geography
One Regional Geography course in Geography as a Social Science

Spanish (Teacher of Spanish 5-9)

Major requirement (in addition to the core):
ED 458 Strategies of Teaching Foreign Language in the Middle School

Cognate requirements:
SE 213 The Special Needs Learner in the Middle School
LS 181 Advanced Spanish I
LS 182 Advanced Spanish II
LS 341 Survey of Spanish Literature I
LS 342 Survey of Spanish Literature II
LS 331 Survey of Spanish-American Literature I
LS 332 Survey of Spanish-American Literature II
LS 281 Advanced Composition
LS 282 Spanish Phonetics and Conversation
LS 292 Spanish-American Civilization
Three Spanish electives

High School Education Minor

The department offers a minor in High School Education. A student selecting this minor must in addition select a major in an appropriate academic discipline. The major requirements for each academic discipline, including cognates and the high school education minor, are described on following pages.

All students in a teacher education program must apply for admission to, and be accepted in, the Teacher Education Program. Information on the Teacher Education Program may be found in the introductory section of the Division of Professional Education.

The High School Education Minor is designed for students desiring to qualify for one of the following specialized teaching certificates:

Teacher of Behavioral Sciences	Gr. 9-12
Teacher of Biology	Gr. 9-12
Teacher of Chemistry	Gr. 9-12
Teacher of Earth Sciences	Gr. 9-12
Teacher of English	Gr. 9-12
Teacher of Geography	Gr. 9-12
Teacher of History	Gr. 9-12
Teacher of Mathematics	Gr. 9-12
Teacher of Physics	Gr. 9-12
Teacher of Social Studies	Gr. 9-12

In addition to majoring in an appropriate academic discipline (see below, *Major Requirements for Education Minors*), the student also completes the High School Education minor.

High School Education Minor:

- ED 220 Teaching in the High School
- ED 230 Educational Psychology
- ED 240 Classroom Management in the High School
- ED 360 Aims and Philosophy of High School Education
- ED 370 Evaluating Teaching and Learning in the High School
- An appropriate course from the group
 - ED 412-426 Strategies for Teaching in the High School
- ED 490 Student Teaching Practicum--High School
- SE 214 The Special Needs Learner in the High School

Major Requirements for Education Minors

Students desiring to complete a minor in High School Education must also complete an academic major. Appropriate academic majors, along with major and cognate requirements, are listed below. It is important to note that in many cases the major or cognate requirements for students selecting an Education minor are somewhat different from those that hold for students who do not minor in Education. For instance, some majors require two years of a foreign language for non-Education minors, but there is no foreign language requirement for Education minors having the same major.

Anthropology (Teacher of Behavioral Sciences 9-12)

Major courses:

AN 100 Introduction to Cultural Anthropology

AN 201 Introduction to Physical Anthropology

One course from among the following:

AN 105 Culture Change

AN 207 Anthropology of Religion

AN 110 Introduction to Folklore

AN 111 Myth and Culture

Two courses from among the following:

AN 103 Introduction to Archaeology

AN 206 Native Cultures of North America

AN 310 Peoples and Cultures of Africa

AN 315 Ethnic Experience in America

AN 321 Comparative Social Structures

AN 323 Anthropological Theory

or

AN 333 Archaeological Theory

Plus three Anthropology electives

Cognate courses:

BH 201 Quantitative Methods in the Behavioral Sciences

SO 102 Introduction to Sociology

SO 305 Sociology of Education

PY 101 Foundations of Psychology

PY 224 Child Psychology

or

PY 226 Adolescent Psychology

HI 221 U.S. History and Constitutions to 1865

HI 464 Contemporary Affairs

HI 345 American Immigration and Ethnicity

or

HI 366 Social and Intellectual History of the U.S.
since 1914

Art (Teacher of Art 5-12)

Major courses:

AR 130 Two-Dimensional Design

AR 140 Three-Dimensional Design

AR 230 Painting I

AR 240 Sculpture I

AR 270 Ceramics

AR 320 Drawing II

One 200-level Printmaking course

One 300-level Art History course

One additional 3 credit art elective

Cognate courses: None

Biology (Teacher of Biology 9-12)

Major courses:

BI 100 General Principles of Biology

BI 104 Animal Morphology

BI 282 Comparative Chordate Anatomy

or

BI 284 Invertebrate Zoology

BI 240 Plant Morphology

BI 373 Animal Physiology

BI 321 Genetics

BI 428 Microbiology

BI 341 Plant Physiology

BI 425 Ecology

Cognate courses:

CH 131-132 General Chemistry I-II

PH 181-182 Elements of Physics I-II

Plus two Mathematics courses, one of which must be in
calculus, statistics, or computer science

Chemistry (Teacher of Chemistry 9-12)

Major courses:

CH 100 Computer Science in Chemistry

CH 131-132 General Chemistry I-II

or

CH 141-142 Chemical Principles I-II

CH 241 Inorganic Quantitative Analysis

CH 242 Intermediate Inorganic Chemistry

CH 343-344 Organic Chemistry I-II

CH 381-382 Physical Chemistry I-II

CH 450 Instrumental Analysis

Cognate courses:

MA 101-102 Calculus with Analytic Geometry I-II

or

MA 103-104 Elements of Calculus I-II

PH 243-244 General Physics I-II

Plus one year of a foreign language

Communication Arts and Sciences

Speech Communication Concentration (Teacher of Speech 9-12)

Major courses:

CC 130 Human Communication Skills
CC 210 Voice and Diction
CC 250 Public Speaking
CC 351 Rhetoric and Persuasion
CT 115 Play Production
CC 260 Group Communication and Decision-Making
CD 292 Language Acquisition and Development
CT 310 Oral Interpretation
CC 360 Argumentation and Debate

or

CC 270 Interpreting Communicative Behavior
CC 452 Organizational Communication
CC 450 Communicative Theory
CC 495 Seminar in Communication

Plus one elective from among the following:

CC 400 Creative Techniques for Teaching
CT 230 Creative Dramatics
CT 341 Improvisational Acting
CT 390 Principles of Acting

Cognate courses: None

Theatre Arts Concentration (Teacher of Drama 5-12)

Major courses:

CC 130 Human Communication
CC 210 Voice and Diction
CC 250 Public Speaking
CD 292 Language Acquisition and Development
CT 115 Play Production
CT 272 Stagecraft
CT 390 Principles of Acting
CT 421-422 Theatre History I-II
CT 332 Principles of Directing

One course from among the following:

CT 156 Movement and Dance for Actors
CT 310 Oral Interpretation
CT 272 Creative Dramatics
CT 341 Improvisational Acting
CC 400 Creative Techniques for Teaching
CT 420 Children's Theatre

Four credits from:

CT 140 Theatre Performance Practicum
and/or
CT 170 Technical Theatre Practicum

Cognate courses:

One course from among the following:

EN 241-242 Shakespeare I-II
EN 353 Modern European Drama
EN 356 Modern American Drama

Earth Sciences (Teacher of Earth Science 9-12)

Major courses:

ES 100 Physical Geology
ES 101 Historical Geology
ES 284 Geomorphology
ES 301 Astronomy
ES 306 Introduction to Oceanography II
GE 203 Meteorology
ES 372 Mineralogy
ES 463 Petrology
Plus 12 additional semester hours of approved Earth Sciences electives

Cognate courses:

MA 101-102 Calculus I-II

or

MA 103-104 Elements of Calculus I-II
CH 131-132 General Chemistry I-II

or

CH 141-142 Chemical Principles I-II

One year of Physics or Biology

Proficiency in a foreign language at the intermediate level

English (Teacher of English 9-12)

Major courses:

EN 101 Writing I
EN 102 Writing II
EN 301 Writing and the Teaching of Writing
EN 323 Introduction to Linguistics
One English literature course before 1800
One English literature course after 1800
One American literature course
One Shakespeare course
One writing course above the freshman level
Plus four English electives.

Cognate courses: Proficiency in a foreign language at the intermediate level

French (Teacher of French 9-12)

Major courses:

LF 151-152 Intermediate French I-II
LF 271 Patterns of the French Language
LF 272 Advanced French Composition
LF 281-282 French Civilization I-II
LF 311 Survey of French Literature I
LF 312 Survey of French Literature II
LF 371 Advanced French Conversation
LF 411 Survey of French Literature III
LF 412 Seminar in French Literature
LF 471 Extemporaneous Use of French

Cognate courses: None

In addition to the above, certification as a teacher of French requires that the student pass a proficiency examination in the language.

Geography (Teacher of Geography 9-12)

Major courses:

GE 100 Physical Geography
GS 110 Human Geography
GE 216 Cartography
GE 204 Climatology
GS 362 Economic Geography
GS 490 Seminar in Geography
GS 353 Urban Geography

or

GS 473 Political Geography
Three Physical Geography/Earth Science electives

One field course from among the following:

GE 217 Air Photo Interpretation--Surveying
GE 354 Field Methods in Urban Geography
GS 363 Locational Analysis
GE 418 Thematic Mapping

Cognate courses:

MA 103-104 Elements of Calculus I-II
MA 110 Elementary Statistics I
Competence in a foreign language at the intermediate level

History (Teacher of History 9-12)

Major courses:

Two sequential 100 level courses from Area I or Area III
One 300-400 level course from Area II
One 300-400 level course from Area IV
HI 221 U.S. History and Constitutions to 1865
HI 222 U.S. History since 1865
Three 300-400 level courses from Area V
One course from Area VI
HI 492 Senior Seminar in History

One 300-400 level course from Area VIII

or one course from among the following:

ID 200 An Introduction to Canadian Studies
ID 220 Introduction to American Studies
ID 420 American Studies Seminar
SS 300 Geography and History of Mexico

Cognate courses: None

History (Teacher of Social Studies 9-12)

Major courses:

Two sequential 100 level courses
HI 221 U.S. History and Constitutions to 1865
HI 222 U.S. History since 1865
Two 300-400 level courses in United States History
Two 300-400 level courses in non-United States History
HI 492 Senior Seminar in History

Cognate courses:

PO 172 American Government: The Federal System
PO 277 American Government: State and Local Government

or

PO 260 International Relations
EC 101 Principles of Microeconomics
EC 102 Principles of Macroeconomics
EC 320 Comparative Economic Systems
SO 102 Introduction to Sociology
GS 110 Human Geography
One elective course in Political Science or Geography as a Social Science
One regional Geography course in Geography as a Social Science
One course in Philosophy or Religion

Mathematics (Teacher of Mathematics 9-12)

Major courses:

CS 101 Computer Science I
MA 101-102 Calculus I-II
MA 201 Calculus III
MA 202 Linear Algebra
MA 301 Abstract Algebra
MA 401 Advanced Calculus I
MA 200 Probability and Statistics
One course in algebra, advanced calculus or foundations
One course in probability, statistics or applied mathematics
One course in geometry, history of mathematics or seminar
One elective in higher mathematics

Cognate courses:

PH 243-244 General Physics I-II
Plus one year of a foreign language

Physics (Teacher of Physics 9-12)

Major courses:

PH 243-244 General Physics I-II

PH 375 Wave Theory

or

PH 385 Optics

PH 387 Modern Physics

PH 388 Electricity and Magnetism

PH 389 Mechanics

PH 392 Digital Electronics

PH 403 Mathematical Physics

Cognate courses:

MA 101-102 Calculus I-II

MA 201 Calculus III

MA 316 Differential Equations

CH 141-142 Chemical Principles I-II

Psychology (Teacher of Behavioral Sciences 9-12)

Major courses:

PY 100 Introductory Psychology

PY 224 Child Psychology

or

PY 226 Adolescent Psychology

PY 252 Psychology of Learning

PY 310 Social Psychology

PY 319 History of Psychology

PY 360 Psychology of Personality

One Psychology elective

One course from among the following:

PY 318 Experimental Social Psychology

PY 324 Experimental Child Psychology

PY 340 Experimental Psychology: Sensation and Perception

PY 353 Experimental Psychology: Learning and Motivation

Cognate courses:

BH 201 Quantitative Methods in the Behavioral Sciences

BI 102 Introduction to Zoology

BI 112 Biology and Human Thought

or

BI 311 Heredity and Human Endeavor

AN 101 Introduction to Physical Anthropology

AN 304 Personality and Culture

HI 221 U.S. History and Constitutions to 1865

HI 464 Contemporary Affairs

HI 366 Social and Intellectual History of the U.S. since 1914

SO 302 Social Problems

SO 303 The Family

or

SO 212 Sociology of Prejudice and Discrimination

A one-year sequence of a foreign language at the intermediate level or its equivalent

Sociology (Teacher of Behavioral Sciences 9-12)

Major courses:

SO 102 Introduction to Sociology

SO 305 Sociology of Education

SO 400 Seminar: Social Theory

SO 402 Seminar: Research Methods in Sociology

One course from among the following:

SO 303 The Family

SO 304 Social Stratification: Class, Status and Power in America

SO 212 Sociology of Prejudice and Discrimination

SO 315 Ethnic Experience in America

One course from among the following:

SO 302 Social Problems

SO 327 Deviance and Social Control

SO 328 Criminology

Two Sociology electives.

Cognate courses:

BH 201 Quantitative Methods in the Behavioral Sciences

AN 100 Introduction to Cultural Anthropology

AN 101 Introduction to Physical Anthropology

PY 100 Introductory Psychology

or

PY 101 Foundations of Psychology

PY 224 Child Psychology

or

PY 226 Adolescent Psychology

HI 221 U.S. History and Constitutions to 1865

HI 464 Contemporary Affairs

HI 345 American Immigration and Ethnicity

or

HI 363 Social and Intellectual History of the U.S. to 1870

Spanish (Teacher of Spanish 9-12)

Major courses:

LS 151 Intermediate Spanish I

LS 152 Intermediate Spanish II: Spanish for the Professions

LS 271 Patterns of the Spanish Language

LS 272 Advanced Spanish Composition

LS 291-292 Spanish Civilization I-II

LS 311 Survey of Spanish Literature I

LS 312 Survey of Spanish Literature II

LS 371 Advanced Spanish Conversation

LS 421 Survey of Spanish-American Literature I

LS 422 Survey of Spanish-American Literature II

LS 471 Extemporaneous Use of Spanish

Cognate courses: None

In addition to the above, certification as a teacher of Spanish requires that the student pass a proficiency examination in the language.

Graduate Programs

The Department of High School, Middle School, and Adult Education offers a post-bachelor's high school certification program leading to several specialized teaching certificates. The Department also offers the degree of Master of Arts in Teaching in association with a number of academic Departments at the College. In addition, students may focus on high school education issues, such as computers in education, as part of a Certificate of Advanced Graduate Study (CAGS) program; for details, consult the CAGS in Education description in this catalogue.

Post-Bachelor's High School Certification Program

The post-bachelor's high school certification program is a non-degree program designed for liberal arts graduates who wish to qualify for one of the following specialized teaching certificates:

Teacher of Behavioral Sciences	Gr. 9-12
Teacher of Biology	Gr. 9-12
Teacher of Chemistry	Gr. 9-12
Teacher of Earth Sciences	Gr. 9-12
Teacher of English	Gr. 9-12
Teacher of Geography	Gr. 9-12
Teacher of History	Gr. 9-12
Teacher of Mathematics	Gr. 9-12
Teacher of Physics	Gr. 9-12
Teacher of Social Studies	Gr. 9-12

Students admitted to the program must complete the following education course requirements:

1. GS 501 Graduate Program Planning (1 cr.)
2. ED 220 Teaching in the High School (3 crs.)
3. ED 240 Classroom Management in the High School (3 crs.)
4. ED 360 Aims and Philosophy of High School Education (3 crs.)
or
ED 480 Philosophy of Education (3 crs.)
or
ED 580 Philosophical Foundations of Education (3 crs.)
5. ED 370 Evaluating Teaching and Learning in the High School (3 crs.)
6. An appropriate Strategies for Teaching in the High School course from the group ED 412-426 (3 crs.)
7. ED 230 Educational Psychology (3 crs.)
or
ED 520 Psychological Foundations of Education (3 crs.)
8. SE 214 The Special Needs Learner in the High School (3 crs.)
or
SE 510 Exceptional Children in the Schools (3 crs.)
9. Student Teaching Practicum -- High School (15 crs.)

Specific education course requirements may be waived by the High School, Middle School, and Adult Education Department and the Division of Professional Education if, in accordance with College guidelines, the student demonstrates proficiency and documents relevant and successful experience.

A prerequisite for admission to ED 490 Student Teaching Practicum--High School is the satisfactory completion of a minimum of 27 appropriate credits of course work in the academic area associated with the certificate sought. Some or all of these courses may have been completed prior to admission to this post-bachelor's level teacher education program.

Persons interested in the Post-Bachelor's High School Certificate Program should file application material with the Graduate School Office. After acceptance, an appointment should be made as soon as possible with the program advisor so that prior course work and experience may be reviewed.

Persons who complete the post-bachelor's certificate program and who wish to pursue a Master of Arts in Teaching degree program should contact the Graduate School for information.

Master of Arts in Teaching

The Master of Arts in Teaching degree is designed for in-service teachers at the high school level. M.A.T. degree requirements include a minimum of 30 approved graduate credits (ordinarily 18 credits in the academic area of concentration and 12 credits in education). A thesis is optional in the program. Appropriate teaching experience and successful completion of a comprehensive examination are required. The M.A.T. program is described more fully under the heading *Graduate Degree Requirements* in the Graduate School section of this catalogue. For advice, students not yet accepted should consult with the chairperson of the appropriate academic department and the Graduate Program Coordinator of the High School, Middle School and Adult Education Department.

The departmental offerings listed on the following pages include the following courses which may not be taken for graduate credit:

All courses at the 200 level

ED 499 Directed Study in High School Education

Course Offerings*

ED 220 Teaching in the High School (3 crs.)

Introduction to teaching in contemporary high school classrooms. Developing competencies in effective, understandable and appropriate modes of communication in teaching is stressed through micro-teaching and other simulations. Emphasis is also placed on understanding the contemporary high school, e.g. various organizational structures, curricula, teacher roles, etc. Students gain attendant, meaningful experiences through observing, tutoring or assisting teachers in area high schools. *Either semester*

ED 221 Teaching in the Middle School I (3 crs.)

An introduction to teaching in contemporary middle school classrooms. Emphasis is placed on understanding the middle school, e.g., various organizational structures, curricula, teacher roles, etc. Developing competencies in effective, understandable and appropriate modes of communication is stressed through micro-teaching and other simulations. Students gain attendant, meaningful experiences through observing, tutoring, or assisting teachers in area middle schools. *Fall semester.*

ED 222 Teaching in the Middle School II (3 crs.)

A continuation of ED 221. Emphasis is placed on further developing an understanding of the middle school and on competencies in effective, understandable and appropriate modes of communication in the classroom. *(Prerequisite: ED 221) Spring semester*

ED 230 Educational Psychology (3 crs.)

Designed to assist prospective teachers to better conceptualize education from a psychological point of view, the course examines two complementary thrusts in psychology as they relate to the teaching-learning enterprise: (1) Developmental Psychology and (2) the Psychology of Individual Differences. Emphasis is placed upon understanding the intellectual, emotional, social and moral stages that all learners go through. Stress upon the psychology of individual differences (e.g., different cognitive learning styles, personality differences) promotes more awareness as to how individual learners vary from one another. *Either semester*

ED 240 Classroom Management in the High School (3 crs.)

Study of different approaches to classroom management in the high school. Developing competencies in various approaches to classroom management, including the maintenance of a sense of order, relating to students as individuals and as members of groups, and creating a positive atmosphere, is stressed. Students gain attendant, meaningful experiences through field work in area high schools. *Either semester*

ED 360 Aims and Philosophy of High School Education (3 crs.)

The aims of high school education, its curriculum, structure and teaching strategies are examined using the concepts and methodologies of philosophy. Developing competencies in thinking clearly and rationally in identifying goals and objectives, designing curricula, and selecting materials, media and techniques are stressed. Emphasis is also placed on understanding the philosophical issues embedded in the rational determination of the above, especially as these relate to education in a multi-cultural society. (This course may not be taken for credit by students who have satisfactorily completed ED 480) *Either semester*

ED 370 Evaluating Teaching and Learning in the High School (3 crs.)

Developing competencies in the design and use of various evaluative instruments appropriate to the high school. Particular emphasis is placed on using the results of evaluation to improve instruction, problems of interpretation, and correcting for bias. *(Prerequisite: ED 230) Either semester*

ED 371 Evaluating Teaching and Learning in the Middle School (3 crs.)

Developing competencies in the design and use of various evaluative instruments is stressed. Particular emphasis is placed on using the results of evaluation to improve instruction, problems of interpretation, and correcting for bias. *(Prerequisite: ED 230) Either semester*

ED 412-426 Strategies for Teaching in the High School (3 crs.)

Strategies, including methods, materials and media, for teaching particular disciplines are studied. Developing competency and versatility is stressed through simulations and guided teaching in area high schools. A student registers for the course appropriate to his/her major according to the following schedule:

ED 412 Social Studies	ED 421 Biology
ED 414 English	ED 422 Mathematics
ED 415 Behavioral Sciences	ED 424 Foreign Language
ED 416 Earth Sciences	ED 425 Art
ED 417 Geography	ED 426 Speech and Theatre
ED 419 Physical Science	

(Prerequisites: ED 230, ED 360, ED 370)

ED 414 and ED 416-426 fall semester; ED 412 and ED 415 spring semester

ED 440 Methods and Materials in Secondary Education (3 crs.)

Emphasis is on the analysis of teaching in the modern secondary school. Topics will include: the learning process; establishing objectives; classroom organization and management; meeting individual differences; evaluation; correlation between subject matter fields; and recent developments in methodology and subject matter. This course does not satisfy the requirements for teaching certification. Offered only through the Program of Continuing Education. *(Prerequisite: ED 230 or ED 520)*

ED 443 Secondary School Curriculum (3 crs.)

Purposes of the modern secondary school and the curriculum needed to implement them; historical origins, modern development, and future possibilities. Stress is on the manner in which the curriculum is built, behavioral objectives, resource centers, assisting in curriculum construction, and methods of curriculum evaluation. Offered only through the Program of Continuing Education.

ED 450-461 Strategies of Teaching in the Middle School (3 crs.)

Strategies, including methods, materials and media, for teaching particular disciplines are studied. Developing competency and versatility is stressed through simulations and guided teaching in area schools. A student registers for the course appropriate to his/her major according to the following schedule:

ED 450 Social Studies/ History	ED 458 Foreign Language
ED 451 English	ED 459 Art
ED 453 Geography	ED 460 Speech and Theatre
ED 456 Mathematics	ED 461 Science

(Prerequisite: ED 230, ED 371) ED 450 spring semester, ED 451-461 fall semester

*See pages 66-67 for general information regarding course offerings.

ED 480 Philosophy of Education (3 crs.)

Thinking critically and imaginatively about education from the viewpoint of philosophy. Emphasis is placed on understanding the philosophical presuppositions underlying educational practices and policies. *Either semester*

ED 490 Student Teaching Practicum — High School (15 crs.)

Students are assigned appropriate student teaching stations where they work in an approved situation under an experienced supervising teacher. This is a practical experience for one semester in a public school where student teachers are functioning as professional teachers. A college supervisor visits to assist the student teacher. Seminars may be held to exchange experiences. Students are expected to carry a minimum responsible teaching load equal to 50% of the regular teacher's assignment. Full time for one semester. *(Prerequisites: Acceptance and good standing in Teacher Preparation Program, ED 412-426) Either semester*

ED 491 Internship in High School Education (7½ crs.)

A minimum of 300 clock hours will be required in a 9-12 grade setting as a high school teacher. Internship must be less than full time but at least 1/5 time employment in the role for which certification will be sought. Request for this course must be made to Professional Education Office. *(Prerequisite: Consent of the Department)*

ED 495 Student Teaching Practicum--Middle School (15 crs.)

Students are assigned appropriate student teaching stations where they work in an approved situation under an experienced supervising teacher. This is a practical experience for one semester in a public school where student teachers are functioning as professional teachers. A college supervisor visits to assist the student teacher. Seminars may be held to exchange experiences. Students are expected to carry a minimum responsible teaching load equal to 50% of the regular teacher's assignment. Full time for one semester. *(Prerequisite: ED 450-461) Either semester*

ED 499 Directed Study in High School Education (1-3 crs.)

Open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. *(Prerequisite: Consent of the Department) Either semester*

Other Approved Courses:

ED 380 Contemporary Issues in Education

ED 381 Soviet Education

ED 384 Canadian Education Seminar

ED 504 Humanistic and Behavioral Foundations of Education (3 crs.)

A review of the theoretical foundations of selected social sciences (history, philosophy, sociology, economics) and their practical application to educational issues and problems. Students will review the development of American education using the above social sciences to analyze its evolution in terms of intent and content. Students will select, research and report on current issues or problems, and will research and report on areas in the emerging social sciences, e.g., information theory, decision-making theory, systems theory.

ED 505 Historical Foundations of Education (3 crs.)

Historical persons, events and movements which have built man's educational establishment from antiquity to current developments in the American school scene. *(Prerequisite: ED 480)*

ED 520 Psychological Foundations of Education (3 crs.)

A systematic exploration of the various psychological principles related to teaching and application of these principles in specific classroom situations. Special emphasis on social psychology, dynamics in interpersonal relationships and group processes, motivation, and discipline theory. *(Prerequisites: PY 100 and one of the following: PY 224, PY 226, PY 252, ED 230)*

ED 523 Directed Study in Educational Psychology (credit to be arranged)

Designed for individuals who desire to study selected topics in this field. Variable credit, and repetitive up to a total of 4 credits for an M.A.T. Students who wish to enroll in Directed Study should obtain the form, *Request for Directed Study*, at the Graduate School Office well in advance of registration. The completed form should be filed with the Program of Continuing Education at the time of registration. *(Prerequisite: Acceptance in a master's degree program at Bridgewater State College and completion of at least 15 graduate credits approved by the student's advisor)*

ED 524 Seminar in Foreign Languages Methods and Materials (3 crs.)

Intended primarily for teachers with some experience, the course will concentrate on new developments in materials and methods, with emphasis on career opportunities, the teachers of culture, individualized instruction and the supervision of student teachers. *(Prerequisite: A course in foreign language methods and materials)*

ED 541 Improving Middle School Instruction (3 crs.)

Classroom teachers analyze the nature of the transescent (ages 9-14) learner, identify effective middle school practices, and design instruction suited to the unique needs of middle/junior high school students.

ED 545 Curriculum Development for the Academically Talented Student in the Secondary School (3 crs.)

Survey of current curricula status and problems that face the academically talented student. A study of techniques for modifying curricula to meet school, community, and individual needs. An examination of means of evaluation of curriculum's effectiveness. Search for local and regional resources to satisfy the academic needs of the talented.

ED 548 Parenting Curriculum Development (3 crs.)

Theory, instructional techniques, and materials for teaching parenting skills in the high school. *(Prerequisites: Bachelor's degree and teaching certificate)*

ED 550 Special Topics in Teaching Science (3 crs.)

The course will stress topics of general interest in science education such as Computers in Science Education, Laboratory Safety, Field Experiences in Science and Math Anxiety. A series of presentations by guest lecturers will emphasize recent developments in methods and materials used in science and their implementation into the junior high science curricula and will discuss career opportunities. Lectures will be followed by small group discussions. *(Prerequisite: Science teaching experience at the pre-baccalaureate level and consent of the Instructor)*

ED 578 Educational Software Development and Computer Applications I (3 crs.)

An introduction to computer programming and to the BASIC language as it relates to the development of educational software. Significant hands-on experience with computers. As a final project, students will develop software for classroom application. *(Prerequisite: EE 468, ED 468, or permission of the Instructor)*

ED 579 Educational Software Development and Computer Applications II (3 crs.)

An advanced course in educational software development which focuses on high resolution graphics on the Apple II computer. Students develop several software packages for direct application in the classroom. Students interested in grades K-6 should register for EE 579. Those interested in grades 7-12 should register for ED 579. (Prerequisite: EE/ED 578 or consent of Instructor)

ED 580 Philosophical Foundations of Education (3 crs.)

A critical and intensive analysis of selected concepts and beliefs which function as the basis of recent philosophies of education and their relation to current educational practices and policies. Readings from recent philosophers of education. (Prerequisite: ED 480)

**ED 583 Directed Study in the Philosophy of Education
(credit to be arranged)**

Designed for individuals who desire to study selected topics in this field. Variable credit, and repetitive up to a total of 4 credits for an M.A.T. Grades will be given. Students who wish to enroll in Directed Study should obtain the form, *Request for Directed Study*, at the Graduate School Office well in advance of registration. The completed form should be filed with the Program of Continuing Education at the time of registration. (Prerequisite: Acceptance in a master's degree program at Bridgewater State College and completion of at least 15 graduate credits approved by the student's advisor)

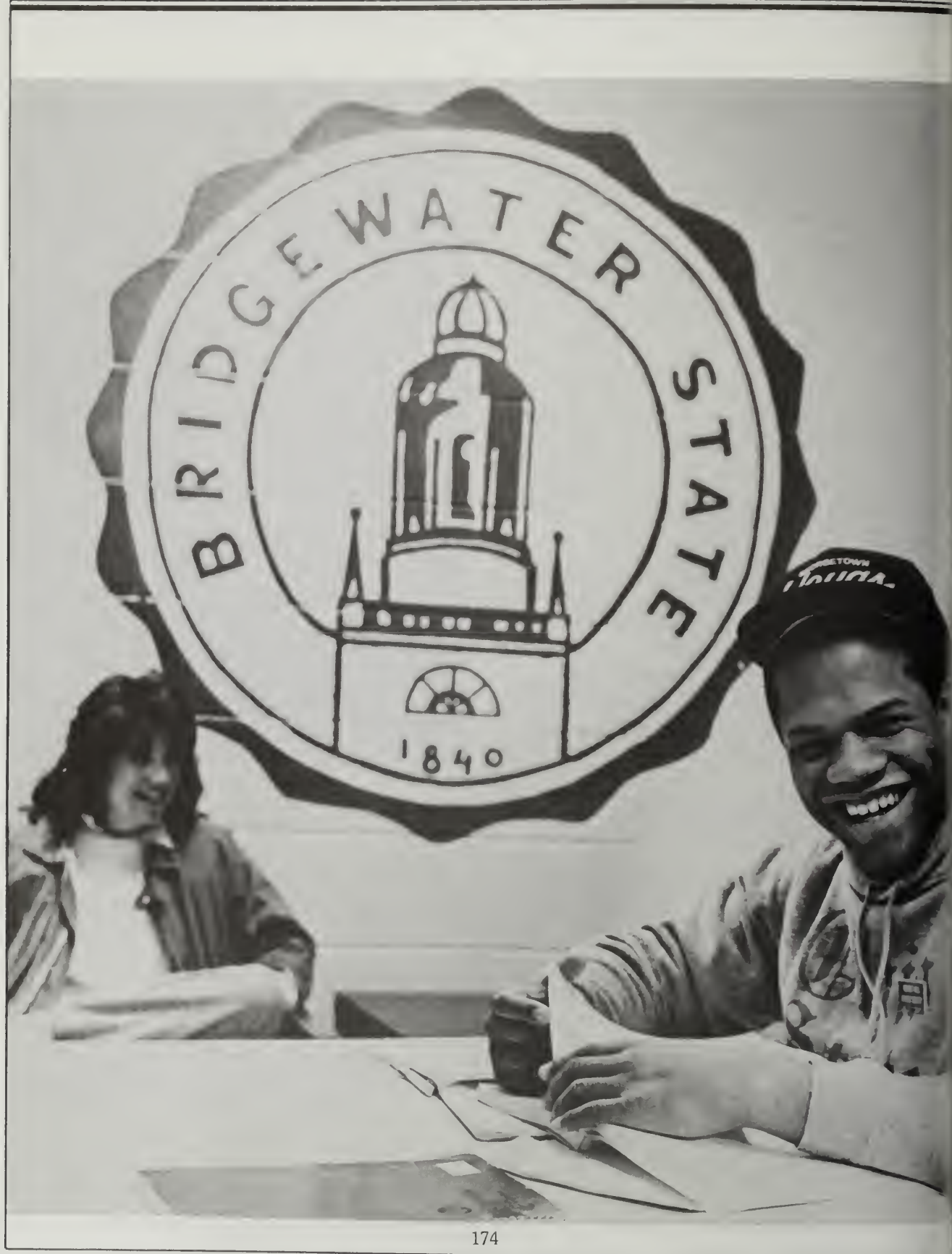
ED 584 Educational Software Development: Files (3 crs.)

An advanced course in educational software development. Focuses on the Apple II computer, stressing an understanding of the disk operating system (DOS), sequential and random access files. A major portion of the course is devoted to student developing software packages for application in the classroom. (Prerequisite: ED 578, or permission of the Instructor)

ED 590 Sociological Foundations of Education (3 crs.)

A critical examination of the effects of various social institutions, groups, and situations on educational policy and content. (Prerequisite: SO 202 or permission of the Instructor)





Department of History

Chairperson: Professor Dennis Lythgoe
Professors: William Cole, David Culver, Gerald Doiron,
 Jordan Fiore, Jane Herrick, Peter Karavites, Donald Keay,
 Chester Nowak, Lucille O'Connell, Philip Silvia, Jr.,
 Benjamin Spence, Thomas Turner, Alfred Wolff, Jr.
Associate Professors: John F. Myers, Arthur Oien,
 Jean Stonehouse

Undergraduate Programs

Bachelor of Arts

The objectives of the department are to contribute to the general education program by offering history courses to all students; to prepare students planning to teach history and to offer advanced courses to those majoring in the elementary curriculum to enable them to enrich their teaching at that level; to enable students to do graduate or associated work in the field of history.

The department recommends that its majors select a minor or interdisciplinary program which will complement the major program. History majors electing Secondary Education are strongly urged to take elective courses in geography, political science, economics and the behavioral sciences in order to meet present employment expectations.

Only 6 hours of 100-level courses may be applied toward a history major or minor.

History Major

Any two 100-level courses in sequence (If HI 123-124 are elected, an additional course in the period before 1500 must be taken);
 HI 221-222, plus 9 additional credits in U.S. History; 9 credits in non-U.S. History;
 6 additional credits from any area;
 All majors must select one of the several senior seminars offered as part of the 36 hour requirement for the major.

History Major/ High School Education

History (Teacher of History 9-12)

Major courses:

Two sequential 100 level courses
 HI 221 United States History and Constitutions to 1865
 HI 222 United States History since 1865
 One 300-400 level course from Area II — Ancient
 One 300-400 level course from Area IV — European
 Three 300-400 level courses from Area V — United States
 One course from Area VI — Regional
 HI 492 Senior Seminar in History
 One 300-400 level course from Area VIII — Relationship
 or one course from among the following:
 ID 200 Introduction to Canadian Studies
 ID 220 Introduction to American Studies
 ID 420 American Studies Seminar
 SS 300 Geography and History of Mexico

Cognate courses: None

History (Teacher of Social Studies 9-12)

Major courses:

Two sequential 100 level courses
 HI 221 United States History and Constitutions to 1865
 HI 222 United States History since 1865
 Two 300-400 level courses in United States History
 Two 300-400 level courses in non-United States History
 HI 492 Senior Seminar in History

Cognate courses:

PO 272 American Government: The Federal System
 PO 277 American Government: State and Local
 Government

or

PO 360 International Relations
 EC 101 Principles of Microeconomics

or

EC 102 Principles of Macroeconomics

SO 102 Introduction to Sociology
 GS 110 The Cultural Environment
 One elective course in Political Science or Geography as a Social Science
 One regional Geography course in Geography as a Social Science
 One course in Philosophy or Religion

Community History Concentration

Two courses (six credits) from the following:

- HI 111 Western Civilization to 1715
- HI 112 Western Civilization Since 1715
- HI 121 World Civilization I: Ancient
- HI 122 World Civilization II: Medieval
- HI 123 World Civilization III: Early Modern
- HI 124 World Civilization IV: Modern

HI 221 United States History and Constitutions to 1865

HI 222 United States History and Constitutions Since 1865

Two courses (six credits) in upper-level non-U.S. History

Six courses (18 credits) from among the following, to include HI 492:

- HI 345 American Immigration and Ethnicity
- HI 346 American Labor History
- HI 347 History of the American City
- HI 359 New England Textile Communities: Social and Economic History
- HI 381 United States History: The Colonial Period 1607-1763
- HI 440 Topics in U.S. History
- HI 461 History of Massachusetts
- HI 492 Senior Seminar in History
- *HI 498 Internship in History
- *HI 499 Directed Study in History

*Students are required to take a combined minimum of 6 credits in Internship and Directed Study. The maximum combined total of credits in Internship and Directed Study is 9 credits (not all 9 credits may be taken exclusively in either Internship or Directed Study.)

Internship arrangements have been made with the following: Old Colony Historical Society; Taunton Historic District Commission; Fall River Office of Historic Preservation.

Minor in High School Education

Students minoring in education must refer to the Department of High School, Middle School, and Adult Education for specific teacher certification and program requirements.

History Minor

Eighteen hours including the freshman and sophomore sequences. At least six credits must be in the 300 and 400 level.

Graduate Programs

Master of Arts

The Department of History offers a program leading to the degree of Master of Arts in History which is designed to prepare qualified students for research, further graduate study, and teaching. Students are responsible for checking the details of the program in the pamphlet, *Graduate Degree Requirements*, issued by the Department of History.

An undergraduate major in History is normally required for admission to the M.A. program. Prerequisite advanced courses for candidates who do not have such an undergraduate major are set on an individual basis by the Graduate Committee of the Department of History. Applicants must have an interview with the Coordinator of the Program. No application will be considered unless this requirement has been met.

A thesis is optional in the Master of Arts program in History. When a candidate chooses to write a thesis, a thesis committee will be set up including the thesis advisor and two other members of the Department of History, chosen by the Graduate Program Coordinator in consultation with the Graduate Committee of the Department, the student's advisor, and the student. The candidate must be familiar with information on writing a thesis that is included in *The Master's Thesis*, available from the Office of the Graduate School, and the pamphlet, *Graduate Degree Requirements*, issued by the Department of History. After completion of 25 hours of graduate credit, candidates working on a thesis must register each fall and spring semester for three hours of thesis credit (HI 502) until the thesis is completed. Candidates who do not choose to write a thesis must complete course work in addition to the minimum credits required for the degree.

All candidates accepted must enroll under the direction of the advisor in GS 501, Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue. Candidates for the Master of Arts degree in History are required to take HI 501 Seminar in Historical Methodology or HI 398 Study and Writing of History or a directed study in historical methodology as soon as possible after being accepted in the program. Other courses should be chosen with consideration given to the distribution by Group and Area listed below. The following courses may not be taken for graduate credit:

All 100 and 200 courses
HI 492 Senior Seminar in History
HI 498 Internship in History
HI 499 Directed Study in History

Not earlier than the last term of course work, the candidate will take a comprehensive examination in the areas chosen. These examinations are given in the fall and spring only. The comprehensive examinations are prepared and administered, and their correction is supervised, by the Graduate Committee of the Department of History

Master of Arts in Teaching

The Department of History offers a program leading to the degree of Master of Arts in Teaching in History, designed to meet the needs of teachers in service and prospective teachers in methodology and subject matter and to prepare them for further graduate study. Students are responsible for checking the details of the program in the pamphlet, *Graduate Degree Requirements*, issued by the Department of History.

An undergraduate major in History is normally required for admission to the M.A.T. program. Prerequisite advanced courses for candidates who do not have such an undergraduate major are set on an individual basis by the Graduate Committee of the Department of History. The degree requirements include a minimum of 12 credits in professional study and a minimum of 18 graduate credits in history. All candidates accepted must enroll under the direction of the advisor in GS 501, Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue. Even though a thesis is optional, candidates for the MAT in History are required to take HI 501 or HI 398 or a directed study in historical methodology as soon as possible after being accepted in the program. Other courses should be chosen with consideration given to the distribution by Group and Area listed below. The following courses may not be taken for graduate credit:

All 100 and 200 courses
HI 492 Senior Seminar in History
HI 498 Internship in History
HI 499 Directed Study in History

Not earlier than the last term of course work the candidate will take a comprehensive examination in the areas chosen. These examinations are given in the fall and spring only. The comprehensive examinations are prepared and administered, and their correction is supervised, by the Graduate Committee of the Department of History.

Master of Arts in Teaching in Social Sciences

The Department of History plays a major role in the MAT program in Social Sciences. The concentration involves work in four fields: Economics, Geography, History, and Political Science. For details candidates should consult the Coordinator of the Program and the pamphlet, *Graduate Degree Requirements*, issued by the Department of History.



Certificate of Advanced Graduate Study (CAGS) Concentration for History/Social Science Teachers

The History Department and Behavioral Sciences Division have developed a concentration for history/social studies teachers in the CAGS in Behavioral Sciences program. This concentration is designed primarily for students with a history background at the master's degree level and would provide for additional specialization in history as well as appropriate interdisciplinary study in the behavioral sciences.

Program Requirements: Thirty-three graduate credits (plus the 1-credit academic advising course), at least 12 of which would be in History and 12 in Behavioral Sciences; the remainder to be electives between the two disciplines. A minimum of 15 hours would be required to be taken through 500-level courses.

Specific Course Requirements: Either ED 412 Strategies of Teaching in the High School/Social Studies, or BH 560 Curriculum Materials in the Behavioral Sciences; BH 599 CAGS Seminar in Behavioral Sciences; HI 501 Seminar in Historical Methodology. BH 599 will be the culminating course, and students will be required to present and defend orally a project/paper developed as part of this seminar, before the combined graduate committees.

Admission: Students must possess an M.A., M.S., M.S.W., or M.Ed., with a minimum of 54 credit hours in Behavioral Sciences and/or History. Some or all of this credit can be from undergraduate courses.

For further information contact the Chairperson of the History Department or the Graduate School Office.

Graduate Programs by Area

Each student entering a graduate program in History will choose, in consultation with the advisor, one of the four groups of historical study listed below as his major. Two areas must be chosen within the major group and one additional area from the remaining groups. Students majoring in Group II, III, or IV must choose the additional area in the History of the United States. These areas must be declared on the departmental form upon entering the program. Students may not change the areas after the application for the comprehensive examination has been filed.

Candidates are expected to know bibliography in each field. Reading lists are available from the Department of History.

The graduate program in history is divided into four major groups:

- I. United States and Canada
- II. Europe
- III. Latin America
- IV. Asia and Africa

Group I: United States and Canada

Areas:

1. Chronological period, 1607-1787
2. Chronological period, 1787-1877
3. Chronological period, 1877 to present
4. Canada

Group II: Europe

Areas:

1. Ancient Greece and Rome
2. Middle Ages and Renaissance
3. Early Modern and Revolutionary Europe
4. 19th and 20th Century Europe
5. Russia and Eastern Europe

Group III: Latin America

Areas:

1. Pre-Columbian and Colonial Spanish America
2. National Period
3. Brazil

Group IV: Asia and Africa

Areas:

1. Ancient Middle East
2. Middle East since Mohammed
3. Colonial Africa
4. Modern Africa

Course Offerings*

The object of the 100-level courses is to give a broad introduction to history at the college level. They should be taken in sequence. Courses that overlap in time periods may not be both taken for credit. Possible sequences include:

- HI 111-112
- HI 121-122-123-124
- HI 111-123-124
- HI 121-122-112

HI 111 Western Civilization to 1715 (3 crs.)

The course surveys the major developments from the genesis of Western civilization to the establishment of absolute monarchy. These developments include the Near Eastern, the Graeco-Roman, and the Judeo-Christian traditions of our civilization. Satisfies the GER in History. *Either semester*

HI 112 Western Civilization Since 1715 (3 crs.)

The course surveys the major developments in Western civilization from the establishment of absolute monarchy to the present. These developments include the evolution of political, economic, social and intellectual aspects of the modern world. Satisfies the GER in History. *Either semester*

HI 121 The Ancient World (3 crs.)

This course presents a global view of ancient history with emphasis on Western civilization. It covers prehistoric humans and the various ancient civilization to the decline of the Roman Empire in the West. Satisfies the GER in History. *Either semester*

HI 124 The World Since 1815 (3 crs.)

This course presents a global view of modern history with emphasis on Western civilization. It covers the zenith of European power and nation-building in Africa, Asia and Latin America. Satisfies the GER in History. *Either semester*

HI 222 United States History and Constitutions Since 1865 (3 crs.)

This course examines the development of the nation from the age of exploration to the end of the Civil War. It emphasizes the economic, political, intellectual and social maturing of the United States. Satisfies the GER in History. *Either semester*

HI 222 United States History Since 1865 (3 crs.)

This course continues the study begun in HI 221 down to the present. It emphasizes the growth of America as an industrial and world power and the increasing role of government in American life. Satisfies the GER in History. *Either semester*

300 and 400-level courses in history are designed primarily for juniors and seniors. As a minimum preparation, those taking upper-level courses in European, Asian, African, and Latin American history must have completed 3 credits in either Western Civilization or World Civilization. Those taking upper-level courses in U.S. or Canadian history must have completed either HI 221 or HI 222. Exceptions to these requirements must be approved by the Department.

HI/RE 300 Mystery Religions (3 crs.)

The course will examine the survival of Greek religion in the empire of Alexander the Great and his successors, and the interaction of the Greek religion with the religions of the Ancient Near East under the new conditions and circumstances created by Alexander's conquests. *Offered alternate years*

HI 301 The Ancient World: Near East (3 crs.)

From prehistoric times through the Persian Empire. *Offered alternate years*

HI 302 Jews and Christians in the Ancient Roman World (3 crs.)

The history of the Jews and Christians with emphasis on the relationships with the Roman authorities and people. *Offered alternate years*

HI 303 Ancient Greece and the Hellenistic Age (3 crs.)

An historical survey of Ancient Greece and a comprehensive study of the cultural contributions of the Greeks to western civilization. *Offered alternate years*

HI 304 The Ancient World: Rome (3 crs.)

From its beginnings to the barbarian invasions. *Offered alternate years*

HI 305 Europe in the Middle Ages (3 crs.)

From the fall of Rome to the Renaissance. *Offered once in three years*

HI 306 The Renaissance and the Reformation (3 crs.)

Western Europe from the decline of feudal institutions to the emergence of the modern state system, with emphasis on cultural and intellectual affairs. *Offered once in three years*

HI 309 Nineteenth Century Europe (3 crs.)

From the Napoleonic era to the eve of the First World War. *Fall semester*

HI 310 Twentieth Century Europe (3 crs.)

Particular focus on backgrounds, development, and effects of the two world wars. *Spring semester*

HI 311 English History to 1603 (3 crs.)

From Roman times to the accession of the Stuart dynasty. *Offered once in three years*

HI 313 British History since 1603 (3 crs.)

England and her empire to 1815 with stress on parallel developments in American history, including economic and social factors. *Offered alternate years*

HI 314 British Empire and Commonwealth since 1815 (3 crs.)

Political development to the present with emphasis on the rise and fall of the Second Empire. *Spring semester*

HI 315 Louis XIV and the Age of Absolutism (3 crs.)

A history of Europe from the end of the Thirty Years' War to the French Revolution with emphasis on the political, social, scientific, religious, literary, and artistic achievements during the period. *Offered once in three years*

HI 316 The French Revolution and the Napoleonic Era (3 crs.)

France from the Old Regime to the end of the First Empire. *Offered once in three years*

HI 318 History of East-Central Europe since 1918 (3 crs.)

The political, social, economic, cultural, and intellectual history of Austria, Hungary, Czechoslovakia, and Poland during the interwar period-and that of the Socialist Republics (Hungary, Czechoslovakia, Poland, and East Germany) from the Second World War to the present. *Offered once in three years*

*See pages 66-67 for general information regarding course offerings.

HI 319 Modern Russia to 1917 (3 crs.)

Political, social, and economic factors in the history of Russia from the end of the fifteenth century to the Revolution. *Offered alternate years*

HI 320 History of the U.S.S.R. (3 crs.)

The political, social, intellectual, and diplomatic development of Russia. *Spring semester*

HI 321 Modern German History (3 crs.)

From the reign of Frederick the Great to the end of World War II. *Offered once in three years*

HI 322 History of Portugal (3 crs.)

From the eleventh century to the dissolution of the Portuguese empire in the twentieth century. *Offered once in three years*

HI 323 Intellectual History of Modern Europe (3 crs.)

From the Renaissance to the present. *Offered once in three years*

HI 324 History of the Middle East (3 crs.)

From Mohammed to the present: The Arab Empire, the Ottoman Empire, and the roots of the Arab-Israeli dilemma. *Offered alternate years*

HI 326 The Arab-Israeli Conflict (3 crs.)

Zionism and Arab nationalism from the nineteenth century to the present with emphasis on the root causes of the present conflict. *Spring semester*

HI 328 Modern European Imperialism (3 crs.)

Africa and Asia considered as contrasting phases of European expansion in the nineteenth and twentieth centuries. *Offered once in three years*

HI 329 Africa since 1800 (3 crs.)

The impact of Islamic and European cultures on the peoples of Africa; creation of colonial empires. *Offered once in three years*

HI 335 Canadian History to Confederation (3 crs.)

The land, the native peoples, exploration, patterns of settlement of the French through the Conquest to the development of English institutions. *Fall semester*

HI 336 Canadian History since Confederation (3 crs.)

The evolution of an independent Canada from the time of the Confederation. *Spring semester*

HI 337 History of Canadian-American Relations (3 crs.)

An analysis of the Canadian efforts to remain friendly with the giant to the south while protecting its political, economic and cultural integrity. *Offered once in three years*

HI 338-339 Honors Tutorial (3 crs. each semester)

Special topics in History. Open to All-College and Departmental Honors students. Three hourly meetings weekly. (*Prerequisite: Consent of the Department*) *HI 338 fall semester, HI 339 spring semester*

HI 343 History of American Indians (3 crs.)

The history of American Indians to the twentieth century, emphasizing the role of economic, political, and military conflict with the people and government of the United States. *Fall semester*

HI 345 American Immigration and Ethnicity (3 crs.)

Patterns of migration to the United States with particular emphasis on the nineteenth and twentieth centuries. *Fall semester*

HI 346 American Labor History (3 crs.)

The pre-industry and industrial periods. Emphasis on the reciprocal relations of workingmen, Negroes, immigrants, urbanization, and industrialization. *Spring semester*

HI 347 History of the American City (3 crs.)

Political, architectural, economic, social, cultural, and population factors in the growth and development of American cities since colonial times. *Offered alternate years*

HI 349 Women in American History (3 crs.)

A history of American women from the colonial period to the present time. *Offered alternate years*

HI 351 The American West (3 crs.)

The westward movement, emphasizing the distinctive character of that region in its economic, social, political, and intellectual life. *Fall semester*

HI 352 The American South (3 crs.)

Sectionalism; its causes and consequences; factors which made the South distinctive; emphasis on race relations, the Civil War and Reconstruction, agrarianism, industrialization. *Spring semester*

HI 359 New England Textile Communities: Social and Economic History (3 crs.)

Social history emphasizing economic, ethnic, labor, political and religious factors during a period when the New England region achieved ascendancy as the nation's foremost cotton textile area. *Offered alternate years*

HI 360 American Environmental History (3 crs.)

Man's attitude toward, interaction with, and adaptations to the physical environment of the United States. *Offered alternate years*

HI 363 Social and Intellectual History of the U.S. to 1870 (3 crs.)

Economic, social, and cultural development to the end of the Civil War. *Offered alternate years*

HI 365 Social and Intellectual History of the United States 1870-1914 (3 crs.)

The economic, social, and cultural development from 1870 to the eve of the First World War, with emphasis on the transformation from an agricultural to an industrial society. *Offered alternate years*

HI 366 Social and Intellectual History of the U.S. since 1914 (3 crs.)

Economic, social, and cultural developments from 1914, with emphasis on the transformation of American life through such forces as technology, population trends, and the mass-production and mass-consumption economy. *Offered alternate years*

HI 367 Sport in American Life (3 crs.)

The rise of sport in American society, stressing its cultural, economic, and social impact since the Civil War. (*Prerequisite: HI 221 or HI 222*) *Spring semester*

HI 368 American Political History (3 crs.)

American History in political perspective: special emphasis on parties, primaries, campaigns, elections; the Presidency; personality in politics; machine politics; political institutions; corruption from U.S. Grant to Watergate. *Spring semester*

HI 371 United States Foreign Relations to 1900 (3 crs.)

From the American Revolution to 1900. *Fall semester*

HI 372 United States Foreign Relations since 1900 (3 crs.)

Spring semester

HI 381 United States History: The Colonial Period 1607-1763 (3 crs.)

The settlement and growth of the English colonies of America; England's colonial policies; economic and institutional development in the provincial period; the wars with the Indians, and the rivalry with the French in America. *Offered alternate years*

HI 382 The American Revolution 1763-1787 (3 crs.)

Background and causes of the American Revolution, the military, social, political, and diplomatic aspects of the Revolution. The government under the Articles of Confederation, and the problems engendered by the attainment of political independence. *Offered alternate years*

HI 384 Jacksonian Democracy and the Coming of the Civil War (3 crs.)

The election of Andrew Jackson and the "rise of the common man," the Whig-Democrat rivalry, the Texas question, Manifest Destiny, the rise of abolitionism, the events leading to the outbreak of the Civil War. *Offered once in three years*

HI 385 United States History: The Civil War (3 crs.)

Background and causes of the Civil War, the military and naval aspects. Civil War music, art, and literature, diplomacy of the Civil War, the home front in the war, the plans for reconstruction, and military reconstruction. *Fall semester*

HI 387 United States History: Progressive Era (3 crs.)

The rise of the Progressive movement in American history to the early 1920's as reflected in politics, government, and the social and intellectual life of the era. *Offered alternate years*

HI 388 United States History from World War I (3 crs.)

Development of the modern America through the isolationism and boom of the 1920's, the Great Depression, the New Deal, World War II, and the role of the United States in the post-war world. *Spring semester*

HI 393 South Asia: The Modern Period (3 crs.)

Emphasis on colonialism and nationalism in the Indian subcontinent and Vietnam. *Fall semester*

HI 395 World War II (3 crs.)

A study of the global conflict with emphasis on military, diplomatic, and political events. *Fall semester*

HI 397 Historiography (3 crs.)

Writings of major historians; evaluation through professional journals and book reviews. Enrollment limited to fifteen. Students are expected to elect HI 398. *(Prerequisite: Consent of the department chairperson and the Instructor) Fall semester*

HI 398 Study and Writing of History (3 crs.)

The techniques of historical research and preparation of papers requiring such techniques; analysis and evaluation of source materials. *(Prerequisite: Consent of the Instructor) Spring semester*

HI 400 Topics in Non-U.S. History (2-3 crs.)

Varied topics such as the Crusades; South Asia; Ancient Egypt. Meets four hours weekly for one quarter. *Either semester*

HI 440 Topics in U.S. History (2-3 crs.)

Varied topics such as the French in New England; History of Boston; American assassinations. *Either semester*

HI 461 History of Massachusetts (3 crs.)

From the days of the Pilgrims and Puritans to the present. In the modern period, emphasis is on social, economic and constitutional history. *Offered once in three years*

HI 464 Contemporary Affairs (3 crs.)

National and international problems, using magazines, newspapers, telecasts, and recent books. Political, economic, social, and scientific developments. Enrollment limited to fifteen. *Spring semester*

HI 485 Honors Thesis (3 crs.)

This course is open to All-College and Departmental Honors students. One-hour weekly meetings with the thesis director will culminate in an honors thesis. With the consent of the Departmental Honors Committee and the thesis director, this course may be extended into a second semester for three additional credits depending upon the scope of the project. Whether the final version of the thesis qualifies the student to graduate with honors will be determined by the Departmental Honors Committee. *Either semester*

HI 492 Senior Seminar in History (3 crs.)

Each senior will elect a seminar. A research paper is required. The number of students in each is limited. *(Prerequisite: Consent of the department chairperson and the Instructor) Spring semester*

HI 498 Internship in History (3-6 crs.)

Intended to expose student participants to historical artifacts and primary source materials. Host agencies may include museums and public and private historical organizations. *(Prerequisite: Consent of the Department) Either semester*

HI 499 Directed Study in History (1-3 crs.)

Open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits or with an internship program — combined credit maximum, 6. *(Prerequisite: Consent of the Department) Either semester*

Other Approved Courses:

HI 122 World Civilization II: Medieval

HI 123 World Civilization III: Early Modern

HI 317 Modern France

HI 333 Spanish America: The Colonial Period

HI 334 Spanish America: The National Period

HI 342 Topics in Recent American History

HI 348 Afro-American History

HI 361 American Economic History

HI 362 Constitutional History of the United States

HI 383 United States History: The Early National Period

HI 386 United States History: 1865-1900

HI 391 History of China

HI 392 History of Japan

HI 394 China Under Communism

HI 497 Historical Museum Management

HI 501 Seminar in Historical Methodology (3 crs.)

The basic methods of historical research and historical writing and the proper use of primary and secondary sources, bibliography, documentation, and annotation. *(Prerequisite: Acceptance in a master's degree program at Bridgewater State College)*

HI 502 Research (credit to be arranged)

Original research undertaken by the graduate student in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

HI 503 Directed Study (credit to be arranged)

Designed for the graduate student who desires to study selected topics in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

HI 505 History of the American Sciences (3 crs.)

The role of sciences, leading American scientists, and the formation of major scientific organizations and government scientific agencies in American history.

HI 521 Pilgrim Heritage Seminar (3 crs.)

The Pilgrims in their economic, social, and religious setting. Admission only with the consent of the Instructor.

HI 540 Topical Seminar: U.S. and Canada (3 crs.)

This course will stress reading and research in a limited field. Topics will vary each time the course is given and will be announced in the horarium. Limited enrollment. (*Prerequisite: Permission of the Instructor*)

HI 550 Topical Seminar: Europe (3 crs.)

This course will stress reading and research in a limited field. Topics will vary each time the course is given and will be announced in the horarium. Limited enrollment. (*Prerequisite: Two appropriate European history courses and permission of the Instructor*)

HI 560 Topical Seminar: Latin America (3 crs.)

This course will stress reading and research in a limited field. Topics will vary each time the course is given and will be announced in the horarium. Limited enrollment. (*Prerequisite: HI 333 and HI 334 or equivalents*)

HI 570 Topical Seminar: Africa (3 crs.)

This course will stress reading and research in a limited field. Topics will vary each time the course is given and will be announced in the horarium. Limited enrollment. (*Prerequisite: HI 329 or equivalent*)

The following courses also carry credit in history:

- ID 200 Introduction to Canadian Studies
- ID 220 Introduction to American Studies
- ID 420 American Studies Seminar
- SS 300 Geography and History of Mexico



Department of Management Science and Aviation Science

Chairperson: Associate Professor Frederick Sheppard

Coordinator, Aviation Science Program:

Assistant Professor William Annesley

Associate Professors: Craig Cowles,
Sylvia Keyes

Assistant Professors: Saul Auslander,
Peter Bergstrom, Jon Bryan, Edgar Canty,
Carleton Donchess, Charles England,
Mercer Fellouris, Frederic Heap, Kathleen Seigny,
Harold Silverman, Joseph Stanford,
Frank Sterrett, Karen Stonely

The Department of Management Science and Aviation Science offers undergraduate majors in Management Science and Aviation Science with a number of available concentrations. Majors in Management Science may concentrate in General Management, Environmental and Energy Resources Management, Finance and Accounting Management, Information Systems Management, Marketing Management, and Transportation Management. Majors in Aviation Science may concentrate in either Flight Training or Aviation Management.

The Department maintains a close liaison with the aviation industry and the business community of Massachusetts and surrounding areas.

Management Science

The Management Science major is designed to educate students for successful careers in business and management. The program provides general education, other liberal arts courses, and specific management education for students with career interests in business, transportation, energy and environmental resources fields, and in finance and accounting.

Because the major is conducted within a strong liberal arts framework, students are encouraged to understand how business decisions relate to society — culturally, economically, ethically, and socially — while developing the skills and knowledge which will enable them to assume management responsibilities.

Students who enroll in the Management program may gain experience through internships that provide practical, on-the-job training opportunities. These valuable learning experiences, coupled with the College's development as a regional resource for business and industry, offer students significant contact with business and management leaders.

General Management Concentration

AC 240 Accounting I
AC 241 Accounting II
AC 350 Managerial Accounting
MG 130 Principles of Management
MG 140 Human Resources Management
MG 200 Marketing Principles
MG 305 Business Law I
MG 360 Business Data Processing
MG 370 Operations Management
MG 385 Managerial Finance
MG 490 Management Seminar
EC 101 Principles of Microeconomics
EC 102 Principles of Macroeconomics
MA 103-104 Elements of Calculus I-II
MA 110 Elementary Statistics I
MA 318 Quantitative Methods for Management I
CC 130 Human Communication Skills
CS 105 Computers and Their Applications: An Introduction
Any one CS programming course
ES 100 Physical Geology
or
GE 100 Physical Geography

Energy and Environmental Resources Management Concentration

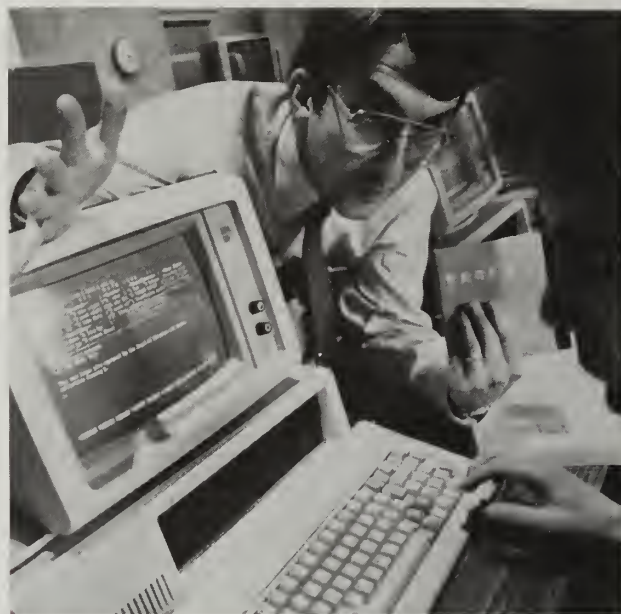
AC 240 Accounting I
AC 241 Accounting II
AC 350 Managerial Accounting I
MG 130 Principles of Management
MG 140 Human Resources Management
MG 200 Marketing Principles
MG 305 Business Law I
MG 360 Business Data Processing
MG 385 Managerial Finance
MG 490 Management Seminar
EC 101 Principles of Microeconomics
EC 102 Principles of Macroeconomics
MA 103-104 Elements of Calculus I-II
MA 110 Elementary Statistics I
CC 130 Human Communication Skills
ES 100 Physical Geology
ES 194 Environmental Geology
ES 240 Hydrology
ES 464 Economic Geology I
GE 100 Physical Geography
GE 216 Cartography
GE 217 Air Photo Interpretation--Surveying
GE 307 Management and Preservation of Natural Environment
GE 361 Geography of Environmental Problems
GE 411 Energy and the Environment
GE 412 Solar Energy
CH 131-132 General Chemistry I-II
CS 105 Computers and Their Applications: An Introduction
One CS programming course.

Finance and Accounting Concentration

AC 240 Accounting I
AC 241 Accounting II
AC 330 Cost Accounting
AC 340 Intermediate Accounting I
AC 341 Intermediate Accounting II
AC 345 Auditing
AC 360 Advanced Accounting I
AC 492 Accounting Seminar
MG 130 Principles of Management
MG 140 Human Resources Management
MG 200 Marketing Principles
MG 305 Business Law I
MG 306 Business Law II
MG 360 Business Data Processing
MG 365 Federal Income Taxation I
MG 385 Managerial Finance
MG 490 Management Seminar
EC 101 Principles of Microeconomics
EC 102 Principles of Macroeconomics
MA 103-104 Elements of Calculus I-II
MA 110 Elementary Statistics I
MA 318 Quantitative Methods for Management I
CC 130 Human Communication Skills
ES 100 Physical Geology
or
GE 100 Physical Geography
CS 105 Computers and Their Applications: An Introduction
One CS programming course.

Information Systems Management Concentration

AC 240 Accounting I
 AC 241 Accounting II
 AC 350 Managerial Accounting I
 MG 130 Principles of Management
 MG 140 Human Resources Management
 MG 200 Marketing Principles
 MG 305 Business Law I
 MG 360 Business Data Processing
 MG 385 Managerial Finance
 MG 445 Information Systems Management
 MG 450 Problems in Information Systems
 MG 480 Systems Analysis
 MG 490 Management Seminar
 EC 101 Principles of Microeconomics
 EC 102 Principles of Macroeconomics
 MA 103-104 Elements of Calculus I-II
 MA 110 Elementary Statistics I
 MA 318 Quantitative Methods for Management I
 CC 130 Human Communication Skills
 CS 101 Computer Science I
 CS 102 Computer Science II
 CS 210 COBOL Programming I
 CS 211 COBOL Programming II
 CS 405 Data Base Processing
 CS 410 Data Processing Applications
 ES 100 Physical Geology
 or
 GE 100 Physical Geography



Marketing Concentration

AC 240 Accounting I
 AC 241 Accounting II
 AC 350 Managerial Accounting I
 MG 130 Principles of Management
 MG 140 Human Resources Management
 MG 200 Marketing Principles
 MG 305 Business Law I
 MG 324 Advertising
 MG 360 Business Data Processing
 MG 364 Marketing II
 MG 385 Managerial Finance
 MG 420 Marketing Research
 MG 430 Sales Management
 MG 490 Management Seminar
 Any one of:
 MG 320 Retail Management
 MG 410 International Marketing and Physical Distribution
 or
 MG 440 Industrial Marketing
 EC 101 Principles of Microeconomics
 EC 102 Principles of Macroeconomics
 MA 103-104 Elements of Calculus I-II
 MA 110 Elementary Statistics I
 MA 318 Quantitative Methods for Management I
 CC 130 Human Communication Skills
 GE 363 Locational Analysis
 ES 100 Physical Geology
 or
 GE 100 Physical Geography
 CS 105 Computers and Their Applications: An Introduction
 Any one CS programming course
 PY 280 Consumer Psychology

Transportation Concentration

AC 240 Accounting I
AC 241 Accounting II
AC 350 Managerial Accounting I
MG 130 Principles of Management
MG 140 Human Resources Management
MG 200 Marketing Principles
MG 305 Business Law I
MG 360 Business Data Processing
MG 385 Managerial Finance
MG 490 Management Seminar
EC 101 Principles of Microeconomics
EC 102 Principles of Macroeconomics
MA 103-104 Elements of Calculus I-II
MA 110 Elementary Statistics I
MA 200 Probability and Statistics
CÇ 130 Human Communication Skills
CS 105 Computers and Their Applications: An Introduction
Any one CS programming course
SO 306 Urban Sociology
PO 376 Municipal Government
PO 379 Introduction to Public Administration
GE 216 Cartography
GS 353 Urban Geography
GS 362 Economic Geography
GS 430 Geography of Transportation
ES 100 Physical Geology
or
GE 100 Physical Geography

Management Science Minor

Students from liberal arts and other programs may elect this minor to broaden their background and expand their potential in job related areas of their respective disciplines. The central purpose of this minor is to provide initial exposure to the basic areas of business and the environment of the business world.

Required courses:

AC 240 Accounting I
MG 130 Principles of Management
MG 200 Marketing Principles

Plus three additional electives from any AC or MG course for which prerequisites can be completed, EC 101 Principles of Microeconomics or EC 102 Principles of Macroeconomics.

Aviation Science

The Aviation Science Program is designed to provide a coordinated program combining liberal arts with concentrations in either *Flight Training* or *Aviation Management*. This major leads to a degree of Bachelor of Science or Bachelor of Arts. Students interested in future positions in industry-related aviation, especially as either pilots or as managers, will benefit from this program. Numerous other careers may be realized from either of these concentrations and other

options provided by the Aviation Science Program. For complete information on this Program consult with Professor William Annesley, Coordinator of the Aviation Science Program.

Flight Training Concentration*

AS 101 Primary Flight I
AS 102 Primary Flight II
AS 103 Primary Flight III
AS 105 Private Pilot Ground School
AS 201 Commercial Flight I
AS 202 Commercial Flight II
AS 203 Commercial Flight III
AS 204 Commercial Flight IV
AS 205 Commercial Flight V
AS 211 Commercial Pilot Ground School
AS 212 Instrument Pilot Ground School
AS 301 Instructional Flight I
AS 302 Instructional Flight II
AS 303 Flight Instructor Ground School
AS 305 Introduction to Aviation Management
AS 306 General Aviation Operations
MG 130 Principles of Management
MG 140 Human Resources Management
MA 103-104 Elements of Calculus I-II
MA 110 Elementary Statistics I
PH 181-182 Elements of Physics I-II
CC 130 Human Communication Skills
CS 100 Introduction to Computer Science
GE 100 Physical Geography
GE 217 Air Photo Interpretation--Surveying
GE 203 Meteorology
EC 102 Principles of Macroeconomics

**Please note that flight courses involve flight fees.*

Aviation Management Concentration*

AS 101 Primary Flight I
AS 102 Primary Flight II
AS 103 Primary Flight III
AS 105 Private Pilot Ground School
AS 305 Introduction to Aviation Management
AS 306 General Aviation Operations
AS 307 Air Transportation
AS 308 Airline Operations
AS 402 Insurance and Legal Aspects of Business Aviation
AS 407 Aviation Marketing Management
MG 130 Principles of Management
MG 140 Human Resources Management
MA 103-104 Elements of Calculus I-II
MA 110 Elementary Statistics I
PH 181-182 Elements of Physics I-II
CC 130 Human Communication Skills
CS 100 Introduction to Computer Science
One computer programming course
GS 362 Economic Geography
EN 201 Technical Writing
One environmental science course
EC 102 Principles of Macroeconomics
AC 240-241 Accounting I-II

*Please note that flight courses involve flight fees.



Aviation Science Minor*

The minor is divided into two options: a *Flight Option* and an *Aviation Management Option*.

Flight Option:

AS 101 Primary Flight I
AS 102 Primary Flight II
AS 103 Primary Flight III
AS 105 Private Pilot Ground School
MG 130 Principles of Management
Plus electives selected from list below. A minor requires a minimum of 18 credit hours.

Aviation Management Option:

AS 305 Introduction to Aviation Management
MG 130 Principles of Management
MG 140 Human Resources Management
plus electives selected from list below. A minor requires a minimum of 18 credit hours.

Electives:

AS 101 Primary Flight I
AS 102 Primary Flight II
AS 103 Primary Flight III
AS 105 Private Pilot Ground School
AS 201 Commercial Flight I
AS 202 Commercial Flight II
AS 203 Commercial Flight III
AS 204 Commercial Flight IV
AS 205 Commercial Flight V
AS 211 Commercial Pilot Ground School
AS 212 Instrument Pilot Ground School
AS 301 Instructional Flight I
AS 302 Instructional Flight II
AS 303 Flight Instructor Ground School
AS 305 Introduction to Aviation Management
AS 306 General Aviation Operations
AS 307 Air Transportation
AS 402 Insurance and Legal Aspects of Business Aviation
AS 407 Aviation Marketing Management
MG 140 Human Resources Management

*Please note that flight courses involve flight fees.

Flight Training and Ground School:

Students enrolled in the Aviation Science Program must take all flight and flight-related courses through Bridgewater State College. Flight training is provided by cooperating Federal Aviation Administration (FAA) approved flight schools which operate under Federal Aviation Regulation (FAR) Part 141. A list of cooperating flight schools may be obtained from the Office of the Coordinator of the Aviation Science Program.

Ground School courses are conducted by the College under a FAA approved FAR Part 141 ground school.

Physical Examinations

Students seeking admission to the Flight Training Concentration must pass a Class II or better FAA physical examination; a Class III FAA physical is required for the Aviation Management Concentration or any other program involving flight courses. A copy of the certification for the appropriate flight physical must be on file with the Aviation Science Coordinator **BEFORE FLIGHT TRAINING BEGINS**.

Academic Credit for Flight Training

The following procedures for granting academic credit for flight and flight-related ground school training for both incoming freshman students and transfer students are in accord with pertinent College policies and are designed to promote academic quality and to maximize safety for the participants in the Aviation Science Program. All students requesting academic credit from Bridgewater State College for flight and flight-related ground school training are subject to these provisions. Credit for all other course work will be considered as specified in the college catalogue under the sections concerning *Transfer Admissions* and *Transfer of Credit After Admission*.

Entering Freshmen and Transfer Students

Freshmen or transfer students entering Bridgewater State College may request up to eighteen (18) credits for previous work in flight and flight-related ground school training under the following provisions:

1. To obtain credit for flight training, the student must: (a) provide valid documentation* of the flight training concerned, (b) hold a current, appropriate flight physical certificate, and (c) pass a flight proficiency test conducted by an Aviation Science Program flight instructor. (Additional flight training may be required if a student has difficulty passing the flight proficiency test.) All costs for the flight proficiency test (and any additional flight training) will be borne by the applicant.
2. Credit for training in FAA certified ground schools may be obtained by providing valid documentation* of the training concerned.

*Valid documentation includes pertinent log books and other certificates, licenses, and verification of the training from the school(s) concerned. This verification must be in the form of a statement which identifies the school, describes the curriculum under which the training was taken, and specifies the number of class hours involved. The statement must be signed by the *chief flight instructor* of the school. (The standard ratio for relating hours to academic credit is 18 class hours of flight training for 1 academic credit.) Full credit will be granted for courses from flight schools operating under Federal Aviation Regulation (FAR) Part 141 curricula, and half credit for training from schools utilizing the FAR Part 61 program.

Credit authorized by the above procedure for flight and flight-related ground school courses may be applied as follows:

Students entering the *Flight Training Concentration* may apply up to seventeen (17) credits toward the academic major; any additional authorized flight training credit will be designated as free electives. *At least fifty percent (50%) of the credits in any major field (major department) must be earned at Bridgewater State College.*

Students entering the *Aviation Management Concentration* may apply seven (7) academic credits toward the required private pilot's license; any additional credits may be used toward free electives only.

Students entering the *Aviation Science Minor* may apply nine (9) credits toward the minor; any balance may be credited toward free electives.

Students who *neither major nor minor in Aviation Science* may be granted up to eighteen (18) academic credits toward free electives.

Authorized flight training credits specified above for the major, minor, and free electives may be applied toward the College graduation requirement of 120 credits (minimum).

Students Enrolled at Bridgewater State College:

*After a student is officially enrolled at Bridgewater State College, academic credit from other institutions will be granted only as specified by College policy. Under special conditions where the College cannot provide the required course work, such as students being out of commuting range of the College during the summer, a student may apply for permission to earn credits at other institutions. The procedure which follows must be completed **BEFORE** courses are taken elsewhere. **PERSONS (IN ANY MAJOR) WHO TAKE COURSES AT OTHER INSTITUTIONS/SCHOOLS WITHOUT FOLLOWING THIS PROCEDURE WILL NOT BE GRANTED CREDIT AT BRIDGEWATER STATE COLLEGE.***

Procedure:

1. A form for requesting transfer credits may be obtained from the Office of the Registrar.
2. The completed form, together with an identification of the proposed school and a description of the courses involved, must be submitted to the Coordinator of the Aviation Science Program, or a designee, for Departmental approval. The Aviation Science Program is based on the quality specified in the Federal Aviation Regulation Part 141, and credit will be accepted *only* from FAR Part 141 approved schools.
3. Upon completion of courses taken at other institutions, students must satisfy the same conditions as set forth for entering freshmen and transfers, i.e., providing valid certification and passing a flight proficiency test, as described above.

The student is responsible for insuring that all transcripts, certificates, or other documentation are submitted to the Registrar of Bridgewater State College, with copies to the Aviation Science Coordinator, within six weeks after the completion of training. Official transcripts must be sent from the training institution *directly to Bridgewater State College. They must not be transported by the student.*

Please note: Additional detailed information on the Aviation Science Program is available. To receive a copy, call (617) 697-1237 or write Admissions, Bridgewater State College, Bridgewater, Massachusetts 02324.

Course Offerings*

The departmental offerings listed below include the following which may not be taken for graduate credit: all courses at the 100 and 200 levels, MG 305, MG 498, MG 499, AC 498, AC 499, and all Aviation Science (AS) courses.

Management Science

MG 130 Principles of Management (3 crs.)

The principles and techniques underlying the successful organization and management of business activities. This course combines the traditional analysis of management principles with the behavioral approach to case studies. The study includes the management functions of planning, organization, leadership, staffing control, and the decision-making process. Three lectures weekly. *Either semester*

Note: MG 130 is prerequisite to all other Management courses.

MG 140 Human Resources Management (3 crs.)

A study of the staffing, compensation systems, individual and group behavior, employee development, and human resource management systems. Three lectures weekly. *Either semester*

MG 150 Personal Finance (3 crs.)

The course examines a range of alternative investments with regard to risk and liquidity. It analyzes and compares such investments as real estate, business ownership, securities and other investment types, considering the effects of taxation and inflation. *Fall semester*

MG 200 Marketing Principles (3 crs.)

Develops students' understanding of the marketing function of an organization through: a survey of the history of marketing from its inception as Distribution through the marketing concept being implemented in the 1980's; in-depth study of the elements of the marketing mix (product, price, place, and promotion); impact of external legal, political, sociological, and technological forces upon the marketing manager; and the structure and placement of the marketing organization presented through lecture, case study, and projects. (*Prerequisite:* MG 130, EC 101, or permission of the Department) *Either semester*

MG 305 Business Law I (3 crs.)

A comprehensive study of law and the judicial process; the legal relationships among man, society and the business community; an analysis of the concept and legal consequences of contracts; business torts and crimes; consumer protection; personal property and bailments recovered. *Either semester*

MG 306 Business Law II (3 crs.)

A study of the basic legal principles encountered by management in the area of sales, commercial paper, agency, partnerships, corporations and government regulation of business. (*Prerequisite:* MG 305) *Spring semester*

MG 320 Retail Management (3 crs.)

An analysis of retail principles with emphasis on organization, consumer demand, store layout, buying merchandise, control and turnover of stock and retail sales promotion. The case method is utilized. (*Prerequisite:* MG 200) *Spring semester*

MG 324 Advertising (3 crs.)

A comprehensive survey of advertising and its applications in business and society. Among the topics considered are an historical survey of advertising, regulation of advertising, buyer behavior, advertising agencies, advertising media, copy and campaign management. (*Prerequisite:* MG 200) *Fall semester*

MG 325 Marketing & Sales Promotion: Industrial and Service Sector (3 crs.)

This upper-level elective course is for students who wish to develop promotional skills in a variety of specialized areas. Actual organizational case problems will be addressed. Projects will provide experience in all aspects of promotion with exposure to campaign proposals, incentives, trade show preparation and implementation, personal selling of services, media choice and related preparation. Students will have the opportunity for hands-on experience with trade shows, professional journal advertising, community relations work, and media personnel. (*Prerequisites:* MG 200, CC 130) *Spring semester*

MG 340 Labor Relations (3 crs.)

The course examines the background, philosophy, and structure of collective bargaining. Emphasis is placed upon the processes of negotiations, and administration of labor agreements. Case analyses dealing with the problems involving unions, employers, and governments are reviewed and analyzed. (*Prerequisites:* MG 130, MG 140) *Spring semester*

MG 360 Business Data Processing (3 crs.)

An introduction to data processing from manual systems to computers; recent developments in the field; the equipment involved; how the equipment is used; how it operates; and the application of data processing systems will be covered. The course will aid students in applying the capabilities of the computer to their fields of study. (*Prerequisite:* CS 105 and any one programming course, or consent) *Either semester*

MG 364 Marketing II (3 crs.)

Teaches the principles of formulating a marketing program. The course demonstrates how and why marketing programs are affected by the marketing forces that bear on the firm while remaining consistent with the needs of the target market segment. (*Prerequisite:* MG 200) *Fall semester*

MG 365 Federal Income Taxation I (3 crs.)

Provides background in Federal Income Tax Law and the regulations of the Treasury Department. Deals primarily with the basic philosophy of taxation, taxable income, allowable deductions, and gains and losses in sales and exchanges of property for the individual taxpayer. Serves also as an introduction to the federal taxation of partnerships and corporations. Emphasizes preparation of federal income tax return and the development of the ability to utilize various references in dealing with tax accounting problems. Discusses tax planning. (*Prerequisite:* AC 341) *Fall semester*

MG 366 Advanced Taxation (3 crs.)

Examines in greater depth federal income tax law and regulations applicable to partnerships, corporations, and fiduciaries. Also covers federal gift and estate tax principles, reorganizations, personal holding companies and the accumulated earnings tax. Emphasizes tax planning, including timing of transactions, appropriate form of transactions, election of methods when alternative methods are made available under the law, and other lawful means to minimize the impact of taxation. Discusses procedures in the settlement of tax controversies. (*Prerequisite:* AC 365) *Spring semester*

*See pages 66-67 for general information regarding course offerings.

MG 370 Operations Management (3 crs.)

This course acquaints the student with the basic principles and methods of production management and control as well as the qualitative and quantitative approaches to problem solving in the production management area. *(Prerequisite: MA 318 or consent of the Instructor)* Spring semester

MG 380 Decision Support Systems (3 crs.)

An analysis of the highest level of information support systems which serve the manager user. Theoretical concepts will be applied to real-world applications. *(Prerequisite: MG 360)* Offered alternate semesters

MG 385 Managerial Finance (3 crs.)

Provides understanding of the finance function and the responsibilities of the financial manager. Develops concepts and tools for use in effective financial decision making and problem solving. Covers ratio analysis, funds, flow, forecasting, current assets management, budgeting, credit services, formation and cost of capital and impact of operating and financial leverages. *(Prerequisite: AC 241, MG 130)* Either semester

MG 386 Capital Budgeting (3 crs.)

A study of methods of capital budgeting for profit and non-profit organizations. Analysis of such factors as risk, timing and measurement will be dealt with in detail. *(Prerequisite: MG 385)* Spring semester

MG 390 Investments (3 crs.)

Provides an understanding of the methods and techniques utilized in analyzing various securities for investment purposes. The importance of the business cycle, economy, and regulation is also addressed. *(Prerequisite: MG 385)* Fall semester

MG 399 Special Topics in Management (3 crs.)

Special topics will be offered in business, management, and allied subjects.

MG 410 International Marketing and Physical Distribution (3 crs.)

An examination of the concepts and practices of marketing management in the international and multi-national settings, including all aspects of product distribution and control. *(Prerequisite: MG 200)* Spring semester

MG 420 Marketing Research (3 crs.)

An examination of the market research process used in approaching contemporary marketing problems. Emphasis is placed on the current status of research techniques and their applications. *(Prerequisite: MG 200, MA 110)* Fall semester

MG 430 Sales Management (3 crs.)

Sales programs must be formulated and then implemented. In this age of accelerating product complexity, this course will deal with the sales manager who must understand the importance of these major responsibilities. *(Prerequisite: MG 200)* Spring semester

MG 435 Small Business Management (3 crs.)

This course provides the student with an understanding of the unique characteristics required of the successful small business entrepreneur and the specifics relative to the start-up, financing and management of a small business. *(Prerequisite: MG 130 and AC 240)* Fall semester

MG 440 Industrial Marketing (3 crs.)

A study of contemporary market strategy techniques in industrial companies. Emphasis is placed on the case approach where students are provided an opportunity to develop strategies in response to given market opportunities and competitive behavior. *(Prerequisite: MG 200)* Fall semester

MG 445 Information Systems Management (3 crs.)

A course designed to equip students as future users of information systems. It deals with systems issues and management of the computer resource. It assumes only minimal technical background and prepares the student to make decisions on the acquisition of equipment, system analysis and related topics. "Management Problems" are used to relate course material to managerially-oriented decisions. *(Prerequisite: MG 360)* Spring semester

MG 450 Problems in Information Systems (3 crs.)

The content of this course varies. It is intended to introduce the student to significant topics which are not normally offered as separate courses. *(Prerequisite: Approval of the Department)*

MG 460 Management and Social Responsibility (3 crs.)

Aspects of management's responsibility to the owners, the employees, and the community are investigated. Students will analyze recent and current events as well as text material in view of management's responsibilities to the total environment in which it must function. *(Prerequisites: MG 130, MG 140, MG 305)* Spring semester

MG 470 Materials Management (3 crs.)

All aspects of materials management, including procurement, material requirements planning, capacity, requirements planning, forecasting and inventory management, as applied in both manufacturing and non-manufacturing business environments, are presented for analysis and discussion. *(Prerequisite: MG 370 or consent of Instructor)* Spring semester

MG 480 Systems Analysis (3 crs.)

Studies systems analysis and the use of quantitative models and the computer in solving managerial problems in a variety of functional areas. The course introduces systems and models and the stages of a systems-analysis approach and provides an overview of systems applications at functional areas and computer techniques for systems, implementation in finance, operations and marketing. *(Prerequisite: MG 380, MG 445)* Fall semester

MG 490 Management Seminar (3 crs.)

Reading and discussion of important research and literature in student's particular field of interest, culminating in a major written paper. *(Prerequisite: Open to all Management Science seniors in the final semester of the program)* Either semester

MG 498 Internship in Management (3-15 crs.)

A non-classroom experience designed for a limited number of junior and senior majors to complement their academic preparation. *(Prerequisite: Consent of the Department Chairperson; formal application required)* Either semester

MG 499 Directed Study in Management (1-3 crs.)

Open to junior and senior majors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. *(Prerequisite: Consent of the Department; formal application required)* Either semester

Accounting

AC 240 Accounting I (3 crs.)

Preparation of accounting statements; cash receivables, liabilities and inventory valuation; corporate financial reporting. Does not satisfy GER's. *Either semester*

AC 241 Accounting II (3 crs.)

Investments, fund and cash flow analysis, budgetary control, introduction to cost accounting. Does not satisfy GER's. *(Prerequisite: AC 240) Either semester*

AC 330 Cost Accounting I (3 crs.)

Basic cost concepts and cost procedures for manufacturing enterprises are studied. Job order product costing is emphasized. Topics include manufacturing cost-flow concepts, procedure and controls, factory and departmental burden rates, inventory-costing methods. *(Prerequisite: AC 241) Fall semester*

AC 331 Cost Accounting II (3 crs.)

A continuation of Cost Accounting I. Additional study of process cost systems, in-depth study of variance analysis, in-depth study of performance measurement, transfer pricing, accounting for by-products and spoilage. The course will also introduce capital budget concepts. *(Prerequisite: AC 330) Spring semester*

AC 340 Intermediate Accounting I (3 crs.)

Basic accounting principles are reviewed. The income and statement of financial position are reviewed in depth. Cash and temporary investments, receivables, inventories, long-term investments, plant and equipment and intangible assets are studied. *(Prerequisite: AC 241) Either semester*

AC 341 Intermediate Accounting II (3 crs.)

A continuation of AC 340. Includes such topics as inventory cost procedures, special valuation, estimating procedures, investments (stocks, bonds, land, building and equipment); the acquisition, use of retirement, depreciation and evaluation of equipment; current and long-term liabilities; retained earnings and capital stock. *(Prerequisite: AC 340) Either semester*

AC 345 Auditing (3 crs.)

The qualifications and professional code of conduct of the auditor are discussed. Attention is then focused upon auditing procedures including the preparation of audit working papers and other steps required in the course of an audit. *(Prerequisite: AC 341; or may be taken concurrently with AC 341 with consent of the Instructor) Spring semester*

AC 350 Managerial Accounting I (3 crs.)

This course presents the analysis and interpretation of accounting information: statement of changes in financial position; cost terms, cost-volume-profit relationships; break-even computations; product costing using the job order method; budgeting; responsibility accounting; standard costs; flexible budgets; and cost-behavior patterns. *(Prerequisite: AC 241) Either semester*

AC 360 Advanced Accounting I (3 crs.)

A detailed study of partnerships and corporations including business combinations and segmental reporting of business entities. *(Prerequisite: AC 341) Fall semester*

AC 399 Special Topics in Accounting/Finance (3 crs.)

Special topics will be offered in accounting, finance, and related subjects.

AC 492 Accounting Theory (3 crs.)

This course develops an understanding of generally accepted accounting principles along with the underlying concepts of the conventions of accounting. Emphasis is placed on current developments, recent FASB pronouncements and the role of the Securities Exchange Commission. The course will be augmented by visiting lecturers. *(Prerequisite: AC 360) Spring semester*

AC 498 Internship in Accounting (3-15 crs.)

A non-classroom experience designed for a limited number of junior and senior majors to complement their academic preparation. *(Prerequisite: Consent of the Department Chairperson; formal application required) Either semester*

AC 499 Directed Study in Accounting (1-3 crs.)

Open to junior and senior majors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. *(Prerequisite: Consent of the Department; formal application required) Either semester*

Aviation Science

AS 101 Primary Flight I (1 cr.)

This course consists of flight instruction and ground tutoring necessary for the student to accomplish his or her first solo flight. Lessons include elements of flight principles, pre-and-post flight procedures, taxiing and ground handling, use of flight controls, basic maneuvers, take-offs and landings. Introduction to aircraft systems, radio communications, and air traffic control procedures. One two-hour lecture/demonstration period weekly for one quarter. (Prerequisite or corequisite: AS 105) Either semester

AS 102 Primary Flight II (1 cr.)

This course is a continuation of Primary Flight I, designed to prepare the student for solo cross-country flight. Lessons provide greater proficiency in maneuvers, stalls, take-offs and landings, and emergency procedures. Introduction to night flight, various types of VFR navigation and VOR tracing. Flight Planning, Cross-Country flying culminating in Solo Cross-Country. One two-hour lecture/demonstration period weekly for one quarter. (Prerequisite: AS 101) Either semester

AS 103 Primary Flight III (1 cr.)

Continuation of Primary Flight II with emphasis on cross-country navigation, flying, flight planning, and solo practice to gain proficiency in all basic maneuvers. Lessons include VFR radio and navigation control of aircraft solely by reference to instruments. Private Pilot qualifications are completed. One two-hour lecture/demonstration period weekly for one quarter. (Prerequisite: AS 102) Either semester

AS 105 Private Pilot Ground School (6 crs.)

Topics include basic performance and aerodynamics of the airplane, airplane structure and systems, flight control and instruments, weight and balance, airports, communications, air traffic control, meteorology, and Federal Aviation Regulations. Aeronautical charts, airspace, radio navigation including VOR, DME, ADF, radar and transponders A.I.M. are considered, as well as use of the flight computer, cross-country flight planning and medical factors of flight. Students who meet Federal Aviation Administration (FAA) requirements will be qualified to take the FAA written examination. Six lecture periods weekly. Either semester

AS 201 Commercial Flight I (1 cr.)

This course is the first in the professional pilot training series. Lessons include a review of basic flight maneuvers, instructions and solo proficiency practice in advanced maneuvers, precision landings, take-off and landing techniques. Introduction to altitude instrument flying. One two-hour lecture/demonstration period weekly for one quarter. (Prerequisite: AS 103 and AS 212, which may be taken concurrently) Either semester

AS 202 Commercial Flight II (3 crs.)

Concentrated instruction and solo practice in precision flight maneuvers. Introduction to flight in complex aircraft, experience in night and cross-country flying. Three two-hour lecture/demonstration periods weekly for one quarter. (Prerequisite: AS 201) Either semester

AS 203 Commercial Flight III (2 crs.)

Review and practice of basic and advanced flight maneuvers. Concentrated instrument flight instruction including IFR navigation, use of VOR, ADF, localizer, holding patterns, flight planning, procedures and regulations. Two two-hour lecture/demonstration periods weekly for one quarter. (Prerequisite: AS 202) Either semester

AS 204 Commercial Flight IV (2 crs.)

Review and practice of precision maneuvers. Continued instrument flight instruction with emphasis on aircraft control, IFR flight planning, departure, enroute, holding, and arrival procedures, instrument approaches, IFR procedures and regulations. Two two-hour lecture/demonstration periods weekly for one quarter. (Prerequisite: AS 203; and AS 212, which may be taken concurrently) Either semester

AS 205 Commercial Flight V (1 cr.)

This course is the final stage of the commercial/instrument series, consisting of a complete review of all commercial maneuvers, instrument flying techniques, procedures, and regulations. Course culminates in recommendation for the FAA Commercial/Instrument Flight Test. One two-hour lecture/demonstration period weekly for one quarter. (Prerequisite: AS 204, 211, 212) Either semester

AS 211 Commercial Pilot Ground School (4 crs.)

Subject matter involves advanced treatment of the airplane systems, performance and control, the National Airspace System, Federal Aviation Regulations, meteorology, radio navigation, and the physiology of flight. Students who meet Federal Aviation Administration (FAA) requirements will be qualified to take the FAA written examination. Four lecture periods weekly. (Prerequisite: AS 105 and FAA requirements) Either semester

AS 212 Instrument Pilot Ground School (3 crs.)

Topics include discussion of aircraft environmental control systems and commercial flight planning, study of instrument flight charts, IFR departure, enroute, and approach procedures. FAR's, IFR Flight Planning. Students who meet Federal Aviation Administration (FAA) requirements will be qualified to take the FAA written examination. Four lecture periods weekly. (Prerequisite: AS 105 and FAA requirements) Either semester

AS 216 National Airspace System (3 crs.)

An overview of the proposed National Airspace System. Examination is made of problems encountered in implementing the system, airspace allocation and usage, facilities, safety considerations, new developments in electronic navigation and control systems, economic impact, social and political implications. Three lectures weekly. Spring semester.

AS 301 Instructional Flight I (2 crs.)

This course is the first stage of instruction to the Certified Flight Instructor Certification. Lessons include analysis of flight maneuvers, take-offs, landings, stalls, emergencies, procedures. Practice flight and ground instruction. Two two-hour lecture/demonstration periods weekly for one quarter. (Prerequisite: AS 205) Either semester

AS 302 Instructional Flight II (1 cr.)

Continuation of Instructional Flight I. Lessons include analysis and practice instruction of advanced maneuvers, altitude instrument flying, considerations of night flight, aircraft performance and control, spins, cross-country flight and navigation. Leads to certification by the FAA. One two-hour lecture/demonstration period weekly for one quarter. (Prerequisite: AS 301, 303 -- may be taken concurrently) Either semester

AS 303 Flight Instructor Ground School (4 crs.)

Provides aviation instructors with easily understood learning and teaching information, and its use in their task of conveying aeronautical knowledge and skills to students. Topics include aspects of human behavior, teaching methods and communication, evaluation and criticism, instructional planning, instructor characteristics and responsibilities. Students who meet Federal Aviation Administration (FAA) requirements will be qualified to take the FAA written examination. Four lecture periods weekly. (Prerequisite: AS 205 and FAA requirements) Either semester

AS 305 Introduction to Aviation Management (3 crs.)

Survey of general aviation industry; basics of aircraft operations; marketing of products and services; legal aspects; physical facilities; major concentration will be placed on management and administration of a fixed base operation, duties and responsibilities of the airport manager and managerial considerations in all areas of general aviation. Three lectures weekly. *(Prerequisite: MG 130) Fall semester*

AS 306 General Aviation Operations (3 crs.)

This course is a combination of lecture and laboratory. Lectures deal with facilities, management, finance, legal and insurance aspects of general aviation. Laboratory sessions focus on sales, line service, air taxi, and flight school. One or more field trips to general aviation operations will be held. A semester project is required. One four-hour lecture/laboratory period weekly. *(Prerequisite: AS 305) Spring semester*

AS 307 Air Transportation (3 crs.)

This course covers development, regulation and administration of air transportation, economic information on airlines, alternate transportation modes and their effect on air transportation, contemporary problems of route congestion, pollution aspects, terminal capacity, ground support, changing trends in air freight, and new developments in air transportation regulations. Three lectures weekly. *(Prerequisite: MG 130) Fall semester*

AS 308 Airline Operations (3 crs.)

An in-depth study of U.S. air carrier operations. The economics, organization, and regulation of domestic air carriers are covered in detail. Field trips to the operational sites of major carriers. Air carrier training programs are explored in this course. Three lectures weekly. *(Prerequisite: AS 305) Spring semester*

AS 310 Aviation Science Safety (3 crs.)

The primary emphasis of this course is to instill safety consciousness. It encompasses the role of federal organizations involved with aviation safety and stresses their contributions to the aerospace industry. The course will explore flight physiology, utilization of aeronautical services and facilities, an historical perspective, and analyzing documented case studies. *(Prerequisites: AS 211 and AS 212, or Commercial Pilot with Instrument Rating Certificate--Airplane) Either semester*

AS 402 Insurance and Legal Aspects of Business Aviation (3 crs.)

An in-depth study of U.S. and international laws governing aviation. A survey of appropriate risk management policies of aviation. The case method is employed to present practical applications of principles under consideration. Three lectures weekly. *Fall semester*

AS 407 Aviation Marketing Management (3 crs.)

Selling and pricing business aviation services and creative marketing strategy are studied in an analytical approach to advertising, sales force administration, promotion, distribution, retailing, logistics, wholesaling, product planning, price policies, market research, and consumer behavior. Three lectures weekly. *Spring semester*

AS 411 Instrument Flight Instructor Ground School (2 crs.)

Techniques of teaching instrument flight, analysis of instrument maneuvers and approaches, enroute operations, and lesson planning. AS 411 will prepare students for the Federal Aviation Administration (FAA) instrument flight and ground instructor written examinations. Meets four hours per week for one quarter. *(Prerequisite: Commercial certificate with instrument rating and airplane flight instructor certificate) Either semester*

AS 412 Instrument Flight Instructor Flight Training (2 crs.)

Teaching analysis of altitude instruments, instrument approaches, and enroute operations. This course will prepare students for the Federal Aviation Administration (FAA) practical test. Two two-hour lecture/demonstration periods weekly for one quarter. *(Prerequisite: AS 411) Either semester*

AS 413 Multi-Engine Rating Ground School (1 cr.)

This course prepares the prospective multi-engine pilot for the flight portion of the Federal Aviation Administration (FAA) multi-engine certification, including an in-depth study of multi-engine aerodynamics, systems, weight and balance, performance and emergencies. Meets two hours per week for one quarter. *(Prerequisite: Commercial certificate with instrument rating) Either semester*

AS 414 Multi-Engine Flight Training (1 cr.)

This course prepares the prospective multi-engine pilot for the Federal Aviation Administration (FAA) multi-engine flight test. It includes multi-engine maneuvers, systems, weight and balance, and emergencies. One two-hour lecture/demonstration period weekly for one quarter. *(Prerequisite: AS 413) Either semester*

AS 415 Commuter Airline and Corporate Aviation Management (3 crs.)

This course provides an in-depth examination of the history and management practices of commuter airline and corporate aviation. Commuter airline certification, aircraft selection, and operations will be analyzed, as well as corporate flight department economics and operations. Three lectures weekly. *(Prerequisite: AS 305, AS 306) Fall semester*

AS 416 Multi-Engine Instructor Ground School (2 crs.)

This course involves techniques of teaching multi-engine flight, multi-engine operations and systems, aerodynamics of multi-engine flight, environmental systems, and multi-engine airplane instruction. One two-hour lecture/demonstration period weekly. *(Prerequisite: FAA requirements) Either semester*

AS 417 Multi-Engine Instructor Flight Training (2 crs.)

This course covers the development of aeronautical skill and experience in multi-engine aircraft as well as acquisition of teaching proficiency from right seat of multi-engine airplane. One two-hour lecture/demonstration period weekly for one quarter. *(Prerequisite: FAA requirements) Either semester*

AS 498 Internship in Aviation Science (3-15 crs.)

Instructive endeavor in the aviation industry or an aviation related business which complements the academic program. *(Prerequisite: Consent of the Coordinator of Aviation Science. Formal application is required) Either semester*

Department of Mathematics and Computer Science

Chairperson: Associate Professor I. Philip Scalisi
Professors: Zon-I Chang, Hugo D'Alarcao, Robert Bent,
 Walter Gleason, Jean M. Prendergast, George Sethares
Associate Professors: Jeffrey Butz, Joseph Chiccarelli,
 Frank Lambiase, Robert Lemos, Michael Makokian,
 Thomas Moore, John R. Nee, Robert Sutherland
Assistant Professors: Hang-Ling Chang, Torben Lorenzen,
 Glenn Pavlicek, Richard Quindley, Abdul Sattar,
 Donald Simpson
Instructors: Gail Price, Shama Uma

Undergraduate Programs

Bachelor of Arts/ Bachelor of Science

Since mathematics is both a cultural and a technical field of study, the curriculum is planned with the following objectives:

1. to introduce students to mathematics as an important area of human thought;
2. to prepare students for careers in industry;
3. to prepare students planning to teach mathematics on the secondary level;
4. to serve the needs of students in fields which rely on mathematics, e.g., experimental sciences, social sciences, and elementary education;
5. to give preparation to students for graduate study in mathematics and related fields.

Bachelor of Arts/ Bachelor of Science in Computer Science

This program provides a broad background in computer science and will serve as preparation for employment in computer applications or for graduate studies in the field.

The department participates in a number of multidisciplinary programs for students preparing for careers in medicine, dentistry, or oceanography. Additional information on these programs may be found in the section *Undergraduate Multidisciplinary and Pre-Professional Programs*.

Mathematics Major

All majors are required to take:

MA 101-102 Calculus I-II
 MA 201 Calculus III
 MA 202 Linear Algebra
 MA 301 Abstract Algebra
 MA 401 Advanced Calculus I

One course in computer programming.

In addition to these requirements, elective courses are to be selected as follows:

1. For students preparing for careers in industry, a *minimum of five courses* must be taken from groups A, B, C, or D. The Department recommends a distribution as follows: two electives each from groups B and D and one elective from any of the four groups.
2. For students preparing for secondary school teaching careers, MA 200 Probability and Statistics is *required* and a *minimum of four courses* must be taken from groups A, B, C, or D. The Department recommends a distribution as follows: one elective each from groups A, B, and C and one elective from any of the four groups.
3. For students planning graduate study, MA 302 Abstract Algebra II and MA 402 Advanced Calculus II are strongly recommended.

Group A:

MA 302 Abstract Algebra II
MA 303 Number Theory
MA 349 Foundations of Mathematics
MA 406 Theory of Sets and Elementary Logic

Group B:

MA 316 Differential Equations
MA 317 Sequences and Series
MA 402 Advanced Calculus II
MA 415 Numerical Analysis
MA 416 Applied Mathematics
MA 417 Vector Analysis

Group C:

MA 304 Higher Geometry
MA 325 Foundations of Geometry
MA 326 Projective Geometry
MA 408 History of Mathematics

Group D:

MA 382 Switching Theory
MA 399 Topics in Advanced Mathematics
MA 403 Probability Theory
MA 412 Mathematical Statistics
MA 490 Mathematics Seminar

All majors must also successfully complete PH 243-244 General Physics I-II and a one-year sequence of language study at the intermediate level, or its equivalent. A math major beginning a new foreign language is required to take only six hours of that language.

Students who are contemplating majoring in mathematics or computer science should be aware of the sequential nature of the course offerings. It is of prime importance that students consult with the Chairperson of the Department as soon as possible. This will enable them to plan their programs so that degree requirements may be completed within a four-year period.

Computer Science Major

All majors are required to take:

CS 101 Computer Science I
CS 102 Computer Science II
CS 201 Assembly Language Programming
CS 205 Discrete Structures in Computer Science I
CS 206 Introduction to Computer Organization
CS 330 Data Structures and Algorithms
CS 336 File Processing and Business Applications
CS 340 Organization of Programming Languages
CS 350 Operating Systems

At least three electives (8 semester hours) must be selected from:

CS 280 Fundamentals of Microprocessors and Microcomputers
CS 305 Discrete Structures in Computer Science II
CS 345 Compiler-Writing Laboratory
CS 395 Computer Science Seminar
CS 399 Topics in Theoretical Computer Science
CS 405 Introduction to Data Base Systems
CS 430 Computer Networks
CS 435 Analysis of Algorithms
CS 445 Logic Programming
CS 460 Introduction to Robotics
CS 470 Introduction to Artificial Intelligence
CS 498 Internship in Computer Science
MA 382 Switching Theory
or
MA 415 Numerical Analysis

All majors must also take:

MA 103-104 Elements of Calculus I-II
MA 200 Probability and Statistics
MA 223 Introduction to Linear Algebra

A one-year sequence of language study at the intermediate level or its equivalent. A computer science major beginning a new foreign language is required to take only six hours of that language.

Not more than one grade in the D range (D+, D, D-) among the five courses CS 101, CS 102, CS 201, CS 206 and CS 330 shall be accepted in partial fulfillment of the requirements for the major in computer science. A student receiving a second D in one of the above must repeat the course with the higher number and receive a C or better before being allowed to enroll in other computer science courses. This policy became effective for all students *admitted* to the program beginning in the Fall of 1985.

Any computer science major who has successfully completed CS 102 will not be allowed to take CS 100 or CS 105 for academic credit.

Mathematics Minor

A minimum of eighteen hours is required. The student must take:

1. MA 101-102 Calculus I-II or MA 103-104 Elements of Calculus I-II or MA 220 Introduction to Calculus
2. At least one course selected from: MA 202 Linear Algebra or MA 223 Introduction to Linear Algebra; MA 214 Introduction to Modern Algebra or MA 301 Abstract Algebra
3. At least three courses selected from MA 105 Selected Topics in Mathematics, MA 107-108 College Mathematics for Elementary Majors I-II, MA 110 Elementary Statistics I, MA 111 Elementary Statistics II, MA 214 Introduction to Modern Algebra, MA 216 Analytic Geometry, MA 223 Introduction to Linear Algebra, MA 321 Introduction to Probability, or any of the courses in the elective Groups A, B, C, D for mathematics majors.

No more than two courses selected from MA 101 through MA 108 inclusive may be used for the minor.

Computer Science Minor

CS 101 Computer Science I
CS 102 Computer Science II
CS 201 Assembly Language Programming
and three additional courses.

These three additional courses to be selected from the following list of courses:

MA 200 Probability and Statistics
PH 392 Digital Electronics

and any other CS courses which are approved for majors.

Data Processing Minor

CS 101 Computer Science I
CS 210 COBOL Programming I
CS 211 COBOL Programming II
Three additional CS courses which are approved for majors.

Graduate Programs

Master of Science in Computer Science

The Master of Science in Computer Science is intended to meet the growing need for high-level computer professionals by:

- Strengthening the preparation of individuals currently working in computer-related fields;
- Training professionals in other areas who wish to apply computer science to their respective fields or who desire to retrain for entry in a computer science career;
- Providing the necessary general and theoretical background for those individuals who wish to continue graduate study in computer science beyond the master's degree.

The program consists of 30 credit hours and may be completed entirely on a part-time basis (courses are offered in the late afternoon, evening, and on Saturday mornings).

To be admitted into the program, if the student's undergraduate major was not in computer science, the student must have completed (with a grade of B or better) courses in:

- A recursive high-level language such as Pascal;
- An assembly language;
- Discrete mathematical structures;
- Data structures;
- Calculus (at least two semesters);
- Linear algebra.

Graduate students accepted with course deficiencies will be required to take the prescribed undergraduate work without credit toward the degree.

1. Candidates must successfully complete each of the following courses:

CS 520 Operating Systems Principles
CS 540 Automata, Computability, and Formal Languages
CS 545 Analysis of Algorithms
CS 560 Artificial Intelligence
CS 590 Computer Architecture

2. Candidates must successfully complete five courses from among the following:

- CS 510 Topics in Programming Languages
- CS 525 Design and Construction of Compilers
- CS 530 Software Engineering
- CS 536 Graphics
- CS 550 Topics in Discrete Mathematics
- CS 562 Expert Systems
- CS 565 Logic Programming
- CS 570 Robotics
- CS 575 Natural Language Processing
- CS 580 Database Systems
- CS 582 Distributed Database Systems
- CS 594 Computer Networks
- CS 596 Topics in Computer Science
- CS 599 Computer Science Seminar

3. Candidates must pass a comprehensive examination on the subject matter of the five required courses. This examination may be taken twice.

Sample Program (for a full-time student)

First semester: CS 540, CS 590

Second semester: CS 545, Elective, Elective

Third semester: CS 560, CS 520

Fourth semester: Elective, Elective, Elective

Master of Arts in Teaching (Mathematics)

The department offers a program leading to the degree of Master of Arts in Teaching with a concentration in mathematics, which is designed primarily to meet the varied needs of graduate students who are currently teaching at the secondary school level. Admission to the graduate program requires a minimum of 18 credits of undergraduate mathematics or the approval of the Chairperson of the Department. All accepted students must enroll under the direction of their advisor in GS 501 Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue. Degree requirements include a minimum of 12 appropriate graduate credits in designated areas of professional study (consult the Graduate School section of this catalogue), and a minimum of 18 appropriate graduate credits in mathematics (approved by the program advisor on the basis of the background, interests, and needs of the student).

The departmental offerings listed below include the following courses which may not be used in fulfillment of the department's M.A.T. degree requirements:

Any 100 and 200 level courses

MA 321 Introduction to Probability

MA 354 Introduction to Modern Geometry

MA 450 Topics in Mathematics for Elementary School Teachers

MA 499 Directed Study in Mathematics

All CS courses



Course Offerings*

Mathematics

MA 101 Calculus I (4 crs.)

This course introduces the student to a rigorous development of the differential calculus. Emphasis is on the development of the concepts of calculus as typical of a cohesive mathematical theory. *Satisfies the GER in Mathematics. Fall semester*

MA 102 Calculus II (4 crs.)

This course is an intensive study of the integral and its applications, transcendental functions, conic sections, and additional techniques of integration. *(Prerequisite: MA 101) Spring semester*

MA 103 Elements of Calculus I (3 crs.)

This course introduces the student to the main concepts, methods, and techniques of differential calculus. Emphasis is on how these arise from problems in several areas, rather than from a rigorous development of the theory. A principal objective of this course is to illustrate how mathematics is used to model physical reality and how such a mathematical model facilitates the solution of problems. *Satisfies the GER in Mathematics. Either semester*

MA 104 Elements of Calculus II (3 crs.)

The topics include the integral calculus and applications, differentiation and integration of exponential and logarithmic functions, and additional techniques of integration. This course does not satisfy math major requirements. *(Prerequisite: MA 103) Either semester*

MA 105 Selected Topics in Mathematics (3 crs.)

The nature and process of mathematical thinking (inductive, deductive, and algorithmic), as well as applications and results, are the underlying components of this course. Possible topics to be explored include sets, logic, number theory, geometry, graph theory and probability. A selection of three or more such topics will be offered each semester. *Satisfies the GER in Mathematics. Either semester.*

MA 106 Fundamentals of Mathematics (4 crs.)

Algebraic operations (including exponents, radicals, and factoring); linear and quadratic equations; trigonometry. *Either semester*

MA 107 College Mathematics for Elementary Majors I (3 crs.)

Theory of sets, relations and their properties, systems of numeration, axiomatic approach to the real number system through a study of the integers and rational numbers, elementary number theory, nonmetric and analytic geometry, groups, linear equations and inequalities, probability. *Either semester*

MA 110 Elementary Statistics I (3 crs.)

Measure of central tendency and variability; elementary probability; binomial, normal and t distributions; hypothesis testing and confidence intervals. *Either semester.*

MA 111 Elementary Statistics II (3 crs.)

The continuation of topics in MA 110. Additional work with regression and correlation. Additional work with Chi-square analysis of variance, nonparametric statistics. *(Prerequisite: MA 110) Spring semester*

MA 200 Probability and Statistics (3 crs.)

Permutations and combinations; types of events, conditional probability, elementary probability distributions, elementary cumulative distributions, mathematical expectation, measures of central tendency, variance and standard deviation, normal distributions. Additional statistics topics as time allows. *(Prerequisite: MA 102 or MA 104) Either semester*

MA 201 Calculus III (4 crs.)

Methods of integration and applications, solid analytic geometry, calculus of vectors in space, elements of infinite series, partial differentiation, multiple integration. *(Prerequisite: MA 102) Fall semester*

MA 202 Linear Algebra (4 crs.)

Vector spaces, linear transformations, matrices, systems of linear equations, and determinants. *(Prerequisite: one year of calculus or permission of the department) Spring semester*

MA 214 Introduction to Modern Algebra (3 crs.)

Linear congruences, groups, matrices, and linear systems. *(Prerequisite: MA 105 or MA 106 or MA 107 or permission of the Department) Offered alternate years, fall semester*

MA 223 Introduction to Linear Algebra (3 crs.)

Matrices, determinants, vectors, systems of linear equations. *(Prerequisite: MA 104 or MA 105 or MA 106 or MA 108 or permission of the Department) Offered alternate years, either semester*

MA 230 Business Mathematics (3 crs.)

The mathematics of: financial planning, simple and compound interest, discount (simple, trade, and commercial), depreciation, government revenue collecting, installment payment plans, annuities, amortization of debts, sinking funds. An introduction to statistics, probability and stocks and bonds. Does not satisfy GER. *Offered once in three years*

MA 301 Abstract Algebra I (3 crs.)

Study of relations, functions, and binary operations. Introduction to the theory of rings, integral domains and fields through a study of integers, rational numbers, real numbers, complex numbers and polynomials; elementary group theory. *(Prerequisite: Permission of the Department) Full semester*

MA 303 Number Theory (3 crs.)

Development of the number system, the Euclidean Algorithm and its consequences, theory of congruences, number-theoretic functions, Diophantine equations, quadratic residues. *(Prerequisite: Permission of the Department) Offered alternate years, spring semester*

MA 316 Differential Equations (3 crs.)

Ordinary differential equations of first and second order, linear differential equations with constant coefficients, the Laplace transformation, applications. *(Prerequisite: MA 201) Spring semester*

MA 317 Sequences and Series (3 crs.)

Elementary point-set theory, Heine-Borel theorem, Cauchy sequences, convergence tests for infinite series, absolute convergence, power series, Taylor series and Fourier series. *(Prerequisite: MA 201) Offered once in three years, spring semester*

MA 318 Quantitative Methods for Management I (3 crs.)

Selected mathematical tools and techniques for analysis of business and economic problems as an aid to decision-making in management. Models and applications related to decision theory, linear programming, inventory, queuing, forecasting and other standard qualitative concepts. *(Prerequisite: MA 104, MA 110 or equivalent) Either semester*

*See pages 66-67 for general information regarding course offerings.

MA 321 Introduction to Probability (3 crs.)

Permutations and combinations; sample spaces, types of events, conditional probability, Chebyshev's Theorem, Bayes' Theorem, the six (classic) discrete probability distributions, mathematical expectation, the normal distribution. (*Prerequisite: MA 105 or MA 106 or MA 108 or permission of the department*). Offered alternate years, spring semester

MA 325 Foundations of Geometry (3 crs.)

An indepth study of Euclid's, Hilbert's, etc., axioms for Euclidean geometry, its undefined relations (incidence, congruence, betweenness and parallelism) and functions (measurement). (*Prerequisite: MA 301 or permission of the department*) Offered alternate years, fall semester

MA 326 Projective Geometry (3 crs.)

A synthetic and analytic study of the axioms and properties of the projective plane; the projective group of transformations, its subgeometries and their invariant properties. (*Prerequisite: MA 223 or permission of the department*) Offered alternate years, fall semester

MA 338-339 Honors Tutorial (3 crs. each semester)

Special topics in Mathematics. Open to All-College and Departmental Honors students. Three hourly meetings weekly. (*Prerequisite: Consent of the Department*) MA 338 fall semester, MA 339 spring semester

MA 382 Switching Theory (3 crs.)

Boolean algebra and functions. Combinational and sequential logic nets, threshold logic, minimization theory, completeness theorems. Introduction to Automata theory. (*Prerequisite: MA 301 and CS 101*) Offered once in three years, spring semester

MA 399 Topics in Advanced Mathematics (3 crs.)

Special topics selected from the general areas of algebra, analysis, and applied mathematics. Offered once in three years, fall semester

MA 401 Advanced Calculus I (3 crs.)

Fundamental theorems on limits, continuity, sequences, differentiation and integration. Additional topics if time permists (*Prerequisite: MA 201*) Spring semester

MA 403 Probability Theory (3 crs.)

All elementary probability topics: permutations and combinations, types of events, conditional probability, Bayes' Theorem and so on. A calculus approach to probability distribution and cumulative distributions, moment and moment generating functions. (*Prerequisite: MA 201*) Offered alternate years, fall semester

MA 408 History of Mathematics (3 crs.)

The development of elementary mathematics from ancient to modern time. (*Prerequisite: Permission of the Department*) Offered alternate years, fall semester

MA 412 Mathematical Statistics (3 crs.)

A calculus based approach to statistical topics: hypothesis testing, estimations, correlation and regression, analysis of variance, the gamma distribution, the t distribution, the χ^2 distribution, the F distribution and so on. (*Prerequisite: MA 201 or permission of the department*) Offered alternate years, spring semester

MA 415 Numerical Analysis (3 crs.)

Solution of algebraic and transcendental equations, general iteration method, Newton-Raphson method. Approximation of functions and curve fitting, Lagrange interpolation formula, Newton's forward difference method, method of least squares, orthogonality. Numerical integration, Euler-Cauchy technique. (*Prerequisite: MA 201*) Offered alternate years, fall semester

MA 416 Applied Mathematics (3 crs.)

Fourier analysis, solutions of partial differential equations, special functions, and line and surface integrals. Offered alternate years, fall semester

MA/CS 445 Logic Programming (3 crs.)

The study of propositional and first order predicate logic from an axiomatic point of view. Algorithmic methods of theorem proving will be emphasized. (*Prerequisite: Junior or Senior mathematics or computer science major or equivalent background, and permission of the Department*) Fall semester

MA/CS 460 Introduction to Robotics (3 crs.)

An introduction to the theory of the motion of robot manipulators. The mathematics, programming and control of manipulators will be emphasized. Also examined will be issues of sensing and planning. (*Prerequisite: MA 102, or MA 104 and either MA 202 or MA 223, and CS 102*) Spring semester

MA 485 Honors Thesis (3 crs.)

This course is open to All-College and Departmental Honors students. One-hour weekly meetings with the thesis director will culminate in an honors thesis. With the consent of the Departmental Honors Committee and the thesis director, this course may be extended into a second semester for three additional credits depending upon the scope of the project. Whether the final version of the thesis qualifies the student to graduate with honors will be determined by the Departmental Honors Committee. Either semester

MA 490 Mathematics Seminar (3 crs.)

Topics to be selected from algebra, geometry, and analysis. May be offered as a quarter or semester course. (*Prerequisite: MA 201, MA 202, and MA 301 or permission of the Department*) Offered alternate years, spring semester

MA 499 Directed Study in Mathematics (1-3 crs.)

Open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. (*Prerequisite: Permission of the Department*) Either semester

Other Approved Courses:

MA 108 College Mathematics for Elementary Majors II

MA 111 Elementary Statistics II

MA 216 Analytic Geometry

MA 220 Introduction to Calculus

MA 302 Abstract Algebra II

MA 304 Higher Geometry

MA 349 Foundations of Mathematics

MA 354 Introduction to Modern Geometry

MA 402 Advanced Calculus II

MA 406 Theory of Sets and Elementary Logic

MA 417 Vector Analysis

MA 450 Topics in Mathematics for Elementary School Teachers

MA 502 Research (credit to be arranged)

Original research undertaken by the graduate student in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

MA 503 Directed Study (credit to be arranged)

Designed for the graduate student who desires to study selected topics in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

MA 507 Topology (3 crs.)

Elements of point set topology, closed sets and open sets in metric spaces, continuous mappings, connection, separation theorems, and compactness. (*Prerequisite: MA 201 and MA 301 or equivalent*)

MA 510 Group Theory (3 crs.)

Groups, subgroups, homomorphisms, normal subgroups and quotient groups, generators, normal structure and the Jordan-Holden Theorem, direct products of groups. (*Prerequisite: MA 401 or equivalent*)

MA 511 Ring Theory (3 crs.)

Examples of rings, ideals and homomorphisms, the Jacobson radical, direct sums, Boolean rings, rings with chain conditions. (*Prerequisite: MA 301 or equivalent*)

MA 518 Topics in Analysis (3 crs.)

Complete ordered fields, approximation theory, including Weierstrass and Bernstein's theorems, continuous, non-differentiable functions, and various topics from complex analysis, time permitting. (*Prerequisite: MA 401 or permission of the Department*)

MA 520 Real Analysis (3 crs.)

Sets and functions, sequences and series, metric spaces, Weierstrass Approximation Theorem, Riemann and Lebesgue Integrals, Fourier Series. (*Prerequisite: MA 401*)

MA 522 Complex Function Theory (3 crs.)

Analytic functions of a complex variable, differentiation and integration in the complex plane. Cauchy's theorems, infinite series, Laurent expansions, theory of residues. (*Prerequisite: MA 401*)

Computer Science

CS 100 Programming in BASIC (3 crs.)

Problem solving. Principles of computer programming taught with the aid of the BASIC language. Topics to include the LET, INPUT, READ, IF and FOR statements; arrays; numerical and string functions; other topics as time allows. *Either semester*

CS 101 Computer Science I (3 crs.)

A first course in programming. Introductory concepts of computer organization. Problem solving methods and algorithmic development stressing good programming style and documentation including top down and modular design. This course emphasizes problem solving with Pascal programming exercises run of the computer. *Either semester*

CS 102 Computer Science II (3 crs.)

Advanced programming techniques. Introduction to basic aspects of recursion. In core search and sort methods, simple data structures, subroutines and parameters, and algorithmic analysis. Techniques of algorithmic development and programming will be stressed. The emphasis on good programming style and documentation begun in CS 101 will be continued. *Either semester*

**CS 105 Computers and Their Applications:
An Introduction (3 crs.)**

This introductory course includes a discussion of topics selected from: file management, gaming, computer assisted instruction, process control, simulation and modeling. Problem solving using computers with emphasis on analysis, formulation of algorithms and programming. Social implications and the future of computers. Not for students with computer experience. *Either semester*

CS 200 FORTRAN (3 crs.)

A problem solving course using FORTRAN language. Structured programming techniques will be emphasized. (*Prerequisite: Proficiency in at least one programming language*) *Spring semester*

CS 201 Assembly Language Programming (3 crs.)

A basic course in machine-level programming. Number systems and data representation; arithmetic and logical instructions, indexing, I/O, subroutines; structure and modularity of programs and data at the machine level. Macro definition, recursion. This course will emphasize programming in assembly language. (*Prerequisite: CS 102*) *Either semester*

CS 205 Discrete Structures in Computer Science I (3 crs.)

This course provides some of the mathematical background necessary for computer science. Topics include combinations and discrete probability, discrete functions and graph theory. Complements CS 330 as the mathematical basis for many of the data structures and algorithms discussed. (*Prerequisite: CS 102*) *Either semester*

CS 206 Introduction to Computer Organization (3 crs.)

Organization and structuring of the major hardware components of computers. Mechanics of information transfer and control within a digital computer system. Fundamentals of logic design. The major emphasis of the course concerns the functions of and communication between the large scale components of a computer system, including properties of I/O devices, controllers, and interrupts. (*Prerequisite: CS 102*) *Either semester*

CS 210 COBOL I (3 crs.)

The elements of structured COBOL programming. Topics from among: arithmetic operation statements, report editing, heading lines, comparisons, complex and nested IF statements, single and multiple level control break processing with group indication, one-dimension table processing: subscript, index, table search. (*Prerequisite: Knowledge of at least one programming language*) Either semester

CS 211 COBOL II (3 crs.)

Continuation of topics of structured COBOL programming. Topics from among: multi-level tables, subprograms, input editing, report writer facility, the sort facility, sequential files, indexed sequential files, and relative files. Creation and file update for sequential and indexed sequential files. (*Prerequisite: CS 210*) Spring semester

CS 305 Discrete Structures in Computer Science II (3 crs.)

Course topics will include formal logic, automata and formal languages, and an introduction to the analysis of algorithms. (*Prerequisite: CS 205 and either MA 102 or MA 104*) Fall semester.

CS 330 Data Structures and Algorithms (3 crs.)

Static, semistatic, and dynamic data structures. Techniques for the analysis and design of efficient algorithms which act on data structures. Topics will include arrays, records, stacks, queues, dequeues, linked lists, trees, graphs, sorting and searching algorithms, algorithms for insertion and deletion, and the analysis and comparison of algorithms. (*Prerequisite: CS 102*) Either semester

CS 336 File Processing and Business Applications (4 crs.)

Common business programs and techniques for writing these programs are covered. SEQUENTIAL, ISAM, and RELATIVE file organizations are discussed and used in business-oriented programs. (*Prerequisite: CS 201 and CS 330*) Either semester

CS 338-339 Honors Tutorial (3 crs. each semester)

Special topics in Computer Science. Open to All-College and Departmental Honors students. Three hourly meetings weekly. (*Prerequisite: Consent of the Department*) CS 338 Fall semester, CS 339 Spring semester.

CS 340 Organization of Programming Languages (3 crs.)

An introduction to the structure of programming languages. Formal specification of syntax and semantics; structure of algorithmic, list processing, string manipulation, data description, and simulation languages; basic data types, operations, statement types, and program structure; run-time representation of program and data. Particular emphasis placed on block-structured languages (ALGOL-68, PASCAL, ADA) and interpreted languages (APL, LISP, SNOBOL). Programming assignments made in several languages. (*Prerequisite: CS 201, CS 205, CS 330*) Either semester.

CS 345 Compiler - Writing Laboratory (3 crs.)

Compiler structure; lexiysis, syntax analysis, grammars, description of programming language, automatically constructed recognizers, and error recovery; semantic analysis, semantic languages, semantic processes, optimization techniques, and extendible compilers. Students will write a sample compiler. (*Prerequisites: CS 330 and CS 340*) Offered alternate years

CS 350 Operating Systems (3 crs.)

Discussion of the organization and structure of operating systems for various modes of computer use from simple batch systems to time-sharing/multiprocessing systems. Topics include concurrent processing, memory management, deadlock, file systems, scheduling, etc. Programming assignments made in a high-level language with concurrent processing feature. (*Prerequisite: CS 206, CS 330*) Either semester

CS 395 Computer Science Seminar (3 crs.)

Interdisciplinary uses of computers. Problems arising through the increasing use of computers in our society. Seminar will be project oriented and students will present their work to the class for discussion and criticism. (*Prerequisite: A minimum of 24 approved hours in computer science and permission of the Department*) Spring semester

CS 399 Topics in Theoretical Computer Science (3 crs.)

Topics to be selected from: artificial intelligence, automata theory, computational complexity theory, mathematical linguistics, programming language theory, and other theoretical computer science topics. (*Prerequisite: Permission of the Instructor*) Fall semester

CS 405 Introduction to Data Base Systems (3 crs.)

Physical data organization. The hierarchical, network, and relational data models. Design theory for relational data base; data dependencies, normal forms, and preventing loss of information. Query optimization. Integrity and security of data bases. Students implement applications on a relational data base system. (*Prerequisites: CS 205 and CS 330*) Offered alternate years.

CS 410 Database Applications (3 crs.)

The role of a database in an MIS environment is studied. Team analysis and implementation of a database project will be a major course component. This course does not fulfill computer science major requirements.

CS 430 Computer Networks (3 crs.)

Introduction to data transmission, digital multiplexing, and data switching, characteristics of transmission media, terminals, modems, and communication processes; design of error control, line control, and information flow control procedures; study of message and packet switching networks; protocols and software in packet switching systems; and modelling techniques for networks. (*Prerequisite: CS 330*)

CS 435 Analysis of Algorithms (3 crs.)

General overview of algorithms. Algorithmic techniques needed in problem solving. Relative efficiency of algorithms. Topics will include efficient algorithms for data manipulation, graphical analysis, rapid evaluation of algebraic functions and matrix operations, and $N \log N$ bound in sorting algorithms. (*Prerequisite: CS 330*) Offered alternate years, fall semester

CS/MA 445 Logic Programming (3 crs.)

The study of propositional and first order predicate logic from an axiomatic point of view. Algorithmic methods of theorem proving will be emphasized. (*Prerequisite: Junior or Senior mathematics or computer science major or equivalent background, and permission of the Department*) Fall semester

CS/MA 460 Introduction to Robotics (3 crs.)

An introduction to the theory of the motion of robot manipulators. The mathematics, programming and control of manipulators will be emphasized. Also examined will be issues of sensing and planning. (*Prerequisite: CS 102 and either MA 102 or MA 104, and MA 202 or MA 223*) Spring semester

CS 470 Introduction to Artificial Intelligence (3 crs.)

This course introduces students to the basic concepts and techniques of artificial intelligence. Emphasis is given to representation and the associated data structures. Students will also be introduced to an AI language such as LISP. (*Prerequisite: 24 credits in approved computer science courses for computer science majors*) Fall semester

CS 485 Honors Thesis (3 crs.)

This course is open to All-College and Departmental Honors students. One-hour weekly meetings with the thesis director will culminate in an honors thesis. With the consent of the Departmental Honors Committee and the thesis director this course may be extended into a second semester for three additional credits depending upon the scope of the project. Whether the final version of the thesis qualifies the student to graduate with honors will be determined by the Departmental Honors Committee. *Either semester*

CS 498 Internship in Computer Science (3 crs.)

Students will work for an employer in the computer science field for a minimum of 10 hours/week during one full semester. A member of the Department will serve as advisor and evaluator of all work projects. *This course can be taken only once for credit. (Prerequisite: A minimum of 24 approved hours in computer science and permission of the Department) Either semester*

CS 499 Directed Study in Computer Science (1-3 crs.)

Open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. *(Prerequisite: Consent of the Department) Either semester*

Other Approved Courses:

CS 280 Fundamentals of Microprocessors and Microcomputers

CS 510 Topics in Programming Languages (3 crs.)

This course investigates programming language development from designer's, user's and implementor's point of view. Topics include formal syntax and semantics, language system, extensible languages, and control structures. There is also a survey of intralanguage features, covering ALCOL-60, ALGOL-68, ADA, PASCAL, LISP, SNOBOL-4 APL, SIMULA-67, CLU, MODULA, and others. *(Prerequisite: Consent of the Instructor)*

CS 520 Operating Systems Principles (3 crs.)

This course examines design principles such as optimal scheduling; file systems, system integrity and security, as well as the mathematical analysis of selected aspects of operating system design. Including: queueing theory, disk scheduling, storage management and the working set model. Design and implementation of an operating system nucleus is also studied. *(Prerequisite: Consent of the Instructor)*

CS 525 Design and Construction of Compilers (3 crs.)

Topics include lexical and syntactic analysis; code generation; error detection and correction; optimization techniques; models of code generators; incremental and interactive compiling. Students design and implement a compiler *(Prerequisite: CS 540)*

CS 530 Software Engineering (3 crs.)

Topics include construction of reliable software, software tools, software testing methodologies, structured design, structured programming, software characteristics and quality and formal proofs of program correctness. Chief programmer teams and structure walk-throughs will be employed. *(Prerequisite: Consent of the Instructor)*

CS 536 Graphics (3 crs.)

This course examines typical graphics systems, both hardware and software. Topics include design of low level software support for raster and vector displays, three-D surface and solids modeling, hidden line and hidden surface algorithms. Shading, shadowing, reflection, refraction, and surface texturing. *(Prerequisite: Consent of the Instructor)*

CS 540 Automata, Computability, and Formal Languages (3 crs.)

Topics include finite automata and regular languages, context-free languages, turing machines and their variants, partial recursive functions and grammars, Church's thesis, undecidable problems, complexity of algorithms, and completeness. *(Prerequisite: Consent of the Instructor)*

CS 545 Analysis of Algorithms (3 crs.)

This course deals with techniques in the analysis of algorithms. Topics to be chosen from among: dynamic programming, search and traverse techniques, backtracking, numerical techniques, NP-hard and NP-complete problems, approximation algorithms, and other topics in the analysis and design of algorithms. *(Prerequisite: Consent of the Instructor)*

CS 550 Topics in Discrete Mathematics (3 crs.)

Topics include context-free languages, graph theory, combinatorics, optimization theory, linear programming, error correcting codes. *(Prerequisite: Consent of the Instructor)*

CS 560 Artificial Intelligence (3 crs.)

This course is an introduction to LISP or another AI programming language. Topics are chosen from: pattern recognition, theorem proving, learning, cognitive science, vision. It also presents introduction to the basic techniques of AI such as: heuristic search, semantic nets, production systems, frames, planning, and other AI topics. *(Prerequisite: Consent of the Instructor)*

CS 562 Expert Systems (3 crs.)

Architectures currently used in building expert systems are studied. The main current systems are surveyed along with expert system environments and tools. *(Prerequisite: CS 560)*

CS 565 Logic Programming (3 crs.)

This course is an introduction to first order predicate logic as a problem solving tool. Logic programming languages such as PROLOG are studied along with applications of logic programming to mathematics fields, natural language processing, and law. *(Prerequisite: Consent of the Instructor)*

CS 570 Robotics (3 crs.)

This is a project-oriented course in robotics. Topics are chosen from: manipulator motion and control, motion planning, legged-motion, vision, touch sensing, grasping, programming languages for robots, automated factory design. *(Prerequisite: Consent of the Instructor)*

CS 575 Natural Language Processing (3 crs.)

This is a historical survey of question-answering systems. Topics include analysis and computational representation of syntactic and semantic structures for artificial intelligence application using English; current text systems; simulation of brief systems and other aspects of cognition; use of natural language systems; generation of text or speech. *(Prerequisite: CS 560)*

CS 580 Database (3 crs.)

Topics include relational, hierarchical and network data models; design theory for relational databases and query optimization; classification of data models, data languages; concurrency, integrity, privacy; modelling and measurement of access strategies; dedicated processors, information retrieval, real time applications. *(Prerequisite: Consent of the Instructor)*

CS 582 Distributed Database Systems (3 crs.)

The problems inherent in distributed data bases on a network of computer systems are studied including file allocation, directory systems, deadlock detection and prevention, synchronization, query optimization, and fault tolerance. *(Prerequisite: CS 580)*

CS 590 Computer Architecture (3 crs.)

This course is an introduction to the internal structure of digital computers including: design of gates, flipflops, registers and memories to perform operations on numerical and other data represented in binary form; computer system analysis and design; organizational dependence on computations to be performed; theoretical aspects of parallel and pipeline computation. (*Prerequisite: Consent of the Instructor*)

CS 594 Computer Networks (3 crs.)

This course is an introduction to data transmission, digital multiplexing, and data switching. Topics include characteristics of transmission media, terminals, modems, and communication processes; design of error control, line control, and information flow control procedures; study of message and packet switching networks; protocols and software in packet switching systems; and modelling techniques for networks. (*Prerequisite: Consent of the Instructor*)

CS 596 Topics in Computer Science (3 crs.)

Topics are chosen from: program verification, formal semantics, formal language theory, concurrent programming, complexity or algorithms, programming language theory, graphics, and other computer science topics. (*Prerequisite: Consent of the Instructor*)

CS 599 Computer Science Seminar (3 crs.)

A project oriented seminar in computer science. Projects will be individually assigned. (*Prerequisite: Minimum of 12 credits in 500-level science course work*)



Department of Media and Librarianship

Chairperson and Graduate Program Coordinator:
Professor Alan Lander
Professor: Robert Ward
Assistant Professors: Thomas Lee, Richard Neubauer

As detailed below, the Department of Media and Librarianship offers undergraduate minors in the areas of Instructional Media, Radio and Television Operation and Production, and Library Science. At the graduate level, the Department offers programs leading to a Master of Education in Instructional Media, Master of Education in School Librarianship, and Certificate of Advanced Graduate Study (CAGS) in Education with areas of study in media and/or library science. For CAGS details, consult the CAGS in Education section of this catalogue.

In addition, the Department offers, in conjunction with all of its graduate offerings, a program designed to prepare Unified Media Specialists in accordance with Massachusetts certification standards. This program has been approved by the Massachusetts Department of Education. This includes certification reciprocity with signatory states under the Interstate Certification Compact.

Instructional Media

Instructional Media programs offer students the opportunity to become adept at and proficient in the use of the latest media theory, techniques, and technology in education.

Undergraduate Programs

Instructional Media Minor

ME 310 Introduction to Instructional Media
ME 152 Basic Photography
ME 456 Radio and TV Production I
ME 460 Graphics for Designing Media
Six (6) additional credits in Instructional Media (with program approval)

Radio and Television Operation and Production Minor

For detailed information on this minor, see the catalogue section entitled *Undergraduate Multidisciplinary and Pre-Professional Programs*.

Graduate Program

Unified Media Specialist Program

This program is designed to prepare persons to meet the Massachusetts Department of Education's requirements for certification as a Unified Media Specialist (N-9, 5-12). This track may be taken through the Graduate School's post bachelor's (non-degree) certification program or in conjunction with the Master of Education in Instructional Media, Master of Education in School Librarianship, or CAGS in Education programs. It should be noted that a student who has completed all of the following requirements may apply for certification prior to completion of his or her master's degree or CAGS program. Persons are urged to contact the Department Chairperson to discuss the Unified Media Specialist program and obtain more detailed information.

Prerequisites for admission to the program:

1. Possession of a Massachusetts classroom teaching certificate.
2. Successful completion, with a grade of B or better, of ME 310 Introduction to Instructional Media and ML 300 Introduction to Unified Media Services.

As part of their program, students must satisfactorily complete the following:

1. Completion of 33 hours of course work as follows:
 - ME 152 Basic Photography
 - ME 310 Introduction to Instructional Media
 - ME 425 Microcomputers in Library Media Centers
 - ME 456 Radio and TV Production I
or
 - ME 556 Operation and Control of a Radio Station and a Television Studio
 - ME 460 Graphics for Designing Media
or
 - ME 560 Graphics for Media Specialists
 - ML 300 Introduction to Unified Media Services
 - ML 310 Children's Literature (required for N-9 certification)
or
 - ML 320 Literature for Young Adults (required for 5-12 certification)
 - ML 370 Reference Materials and Their Use
 - ML 430 Management of Media Programs
 - ML 440 Organization of Materials
 - ML 452 Collection Development

Note: All course projects and requirements must be related to the level of preparation (i.e. N-9 or 5-12 certification).

2. Completion of three different field experiences in the above course sequence prior to the beginning of the practicum. These experiences are offered in the following courses:

ME 310 Introduction to Instructional Media
ML 300 Introduction to Unified Media Services
ML 430 Management of Media Programs

3. Completion of a half-semester practicum or internship judged successful on the basis of the program's standards:

ME/ML 595.

Note: Persons wishing to attain Unified Media Specialist certification at a second level must fulfill the following requirements:

1. Satisfactory completion of six (6) additional credits of course work selected (with the approval of the advisor) from the following:

ME 412 Communication Theory
ME 466 Cinematography
ML 453 Sharing Literature with Children
ML 550 Advanced Reference I
or
ML 560 Advanced Reference II

2. Satisfactory completion of an additional half practicum on the level for which the additional certification is being sought.

Master of Education in Instructional Media

This program is designed for present and future media specialists.

The following are program course prerequisites which may be fulfilled after admission: ME 152 Basic Photography, ED 443 Secondary School Curriculum or EE 450 Elementary School Curriculum, and EE 420 Educational Measurement. Credits earned in these courses may not be counted toward the minimum of thirty-three graduate credits required for the degree. Students who have matriculated or who plan to matriculate in the graduate program should receive program approval prior to enrolling in courses which will be used to fulfill degree requirements.

All accepted students must enroll under the direction of their advisor in GS 501 Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue. As part of their program, students must satisfactorily complete the following curriculum:

1. Research Methods and Findings: ME 524 Seminar in Instructional Media — 3 graduate credits.
2. Humanistic and Behavioral Studies: Consult *Graduate Degree Requirements — Master of Education* in the Graduate School section of this catalogue — 6 graduate credits.
3. Program Requirements:
 - ME 310 Introduction to Instructional Media
 - ME 412 Communication Theory
 - ME 456 Radio and TV Production I
 - ME 460 Graphics for Designing Media
 - ME 464 Management of Instructional Media Department
or
 - ML 430 Management of Media ProgramsTotal: 15 graduate credits.
4. Program Electives: Courses appropriate to the program and approved by the advisor — 9 or more graduate credits.

Information regarding Unified Media Specialist certification is provided above. For additional information relative to this program, students not yet accepted should consult with the program coordinator.

The program offerings listed below include the following courses which may not be taken for graduate credit:

ME 152 Basic Photography

ME 498 Internship in Media and/or Librarianship

ME 499 Directed Study in Non-Print Media

Library Science

Library Science programs provide students with practical and theoretical courses, workshops, and field experiences that will enable them to acquire the philosophy and professional competencies necessary to be a successful school or public librarian.

Undergraduate Programs

This program offers library instruction to all undergraduate students and to those who wish to minor in library science. The undergraduate minor in library science is designed for Education majors and High School minors as well as other students who wish employment in public and special libraries.

Suggested electives for students in other programs: ML 300 for classroom teachers, school administrators; ML 310 for elementary classroom teachers, Special Education and Reading; ML 320 for High School teachers; ML 370 for students wishing to upgrade their research skills.

Acceptance of transfer credits in library science courses must be approved by the Department.

Library Science Minor

ML 310 Children's Literature

or

ML 320 Literature for Young Adults

ML 370 Reference Materials and Their Use

ML 430 Management of Media Programs

ML 440 Organization of Materials

ML 498 Internship in Librarianship

At least two additional courses in Library Science (with department approval).

Graduate Program

Master of Education in School Librarianship

This program is designed primarily for school librarians; many of the courses, however, are of value to educators outside of the library profession.

A minimum of thirty approved graduate credits is required for this degree program. It should be noted that additional credits may be required by the program advisor, as determined by the student's library science background. The program's Comprehensive Examination includes both written and oral sections.

All accepted students must enroll under the direction of their advisor in GS 501 Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue. As part of their program, students must satisfactorily complete the following curriculum:

1. Research Methods and Findings: GC 500 Research and Evaluation — 3 graduate credits.
2. Humanistic and Behavioral Studies: Consult *Graduate Program Requirements — Master of Education* in the Graduate School section of this catalogue — 6 graduate credits.
3. Program Requirements:
ML 310 Children's Literature
or
ML 320 Literature for Young Adults
ML 370 Reference Materials and Their Use
ML 430 Management of Media Programs
ML 440 Organization of Materials
ML 595 Professional Practicum
Total: 18 graduate credits
4. Program Electives: Courses appropriate to the degree program and approved by the advisor. At least two electives must be selected from Library Science courses offered for graduate credit only (500 level) — 6 or more graduate credits.

Admission requirements, in addition to the application information provided in the Graduate School section of this catalogue, include:

Successful completion of a personal interview with the Admissions Committee of the Department (applicants will be contacted by the Department).

Information regarding Unified Media Specialist certification is provided above.

Course offerings which may not be taken for graduate credit are:

ML 102 Introduction to Information Resources

ML 498 Internship in Librarianship

ML 499 Directed Study in Library Science

Course Offerings*

Media

ME 152 Basic Photography (3 crs.)

This course examines the historical foundations of photography and the fundamentals of photographic technique such as lenses, lighting, filters and exposure. Through regular shooting assignments in black and white, students develop an ability to appreciate photographic technology and visual aesthetics by making and appraising their own photographs. Students must have access to an adjustable camera. A gallery/museum visit is assigned. *Satisfies the GER in Artistic Modes of Expression (studio course). Either semester*

ME 310 Introduction to Instructional Media (3 crs.)

Introduction to instructional media and technology incorporating selection, production, evaluation and utilization of instructional materials. Instruction in application of still pictures, slides, filmstrips, recordings, radio, television, and other media. This course is highly recommended for those people involved with training programs in business, industry, and/or education. *Either semester*

ME 315 Media Presentation Skills for Business and Management Training (3 crs.)

This course will help students develop basic media techniques. Instruction will center around the mastery of media presentation skills for those in business, management, and related fields. *Offered once in three years*

ME 320 Sound-Slide Production Techniques (3 crs.)

This course provides an opportunity to learn basic techniques for producing slide-tape productions. Skills include planning presentation, scripting, storyboarding, photographic techniques, and sound recording. These skills are valuable for people in fields such as education, business, advertising, and/or public relations where training or presentation of messages is important. *Offered through the Program of Continuing Education*

ME 412 Communication Theory (3 crs.)

Applies basic concepts of communication to problems related to training and instruction. Modern techniques and applications will be thoroughly discussed and practiced. *Offered through the Program of Continuing Education*

ME 420 Advanced Techniques in Instructional Media (3 crs.)

Directed study course. Development of a multi-media package of materials to be used in a training or instructional setting. Materials are produced by the student under the guidance of the instructor. *(Prerequisite: ME 310, 452, 456, 460 or consent of the Instructor)*

ME 425 Microcomputers in Libraries and Media Centers (3 crs.)

An introduction to the use of microcomputers in media centers and small libraries. This course is designed for those who have little or no background with computers. It is appropriate for media specialists, librarians, students enrolled in the Media Certificate Program and others who wish to become computer literate for application to and management of school and business media centers and small libraries. Topics will include the historical development and introduction to the use of programs in BASIC language and an investigation of the required hardware for setting up a computer system. *Fall semester*

ME 453 Intermediate Photography (3 crs.)

This course is for those students who have a basic working knowledge of B&W photography. The student will increase visual awareness through regular shooting assignments and critiques. Included are an introduction to the Zone System, the relationship between exposure, film development and the printing process, print toning, controlling contrast, print finishing, visual composition, and self-critiquing. The student will need an adjustable camera. A hand-held light meter, tripod, and cable release are suggested. *(Prerequisite: ME 152 or consent of the Instructor) Fall semester*

ME 454 Script Writing for Radio, Television, and/or other Media (3 crs.)

This course explores the many techniques necessary for the design of scripts for use in radio and television. The student will write scripts for actual studio production. *Offered alternate years, fall semester*

ME 456 Radio and TV Production I (3 crs.)

The student will learn all of the technical operations necessary to direct radio and TV programs. Students will work on actual productions. *Fall semester*

ME 457 Photography Techniques (3 crs.)

The student will acquire and practice advanced photography skills. Techniques such as proper print finishing, print toning, preparation of black and white and color slides, use of the copy stand and the fundamentals of color printing are included. This course is recommended for only those students who have taken a basic photography course or its equivalent. *(Prerequisite: ME 452 and consent of the Instructor) Offered alternate years, spring semester*

ME 458 Radio and TV Production II (3 crs.)

Designed to make the student proficient in the production of radio and TV programming, with stress upon being able to make, obtain, and set up necessary props, background, trick camera shots, and sound effects. *(Prerequisite: ME 456 or consent of the Instructor) Spring semester*

ME 460 Graphics for Designing Media (3 crs.)

An introductory course in basic graphic skills necessary for producing instructional materials and/or graphics for television. Course includes instruction in the use of simple mechanical lettering devices; mounting and laminating techniques; diazo and color-lift transparency production; composition and related skills. *(Prerequisite: Consent of the Instructor) Either semester*

ME 464 Management of Instructional Media Department (3 crs.)

The following functions are discussed: personnel, budgeting, purchasing, analysis of materials and equipment, in-service training, curriculum support, and classification and cataloging of instructional materials. *(Prerequisite: Consent of the Instructor) Offered through the Program of Continuing Education*

ME 466 Cinematography I (3 crs.)

Basic film production techniques and their applications are taught. Topics such as scripting, the motion picture camera, lighting, shooting, splicing and editing are included. Students will work with super 8mm and/or 16mm equipment and materials. *Either semester*

*See pages 66-67 for general information regarding course offerings.

ME 470 Field Experience in Photography (3 crs.)

During the semester, the students will be taken on a series of field trips. While on location, the instructor will assist students in determining good composition, solving problems related to light measurement and determining correct exposure under a variety of conditions. Emphasis will be placed on regular shooting assignments in the field and critiques which will be held on campus or at a suitable off-campus location. Students must have access to an adjustable camera, a tripod, a cable release, and a gray card. Although not necessary, it is desirable for the student to have a hand-held light meter. *(Prerequisite: ME 452 or consent of the Instructor)* Offered through the Program of Continuing Education

ME 472 Expressive Photography (3 crs.)

During the semester the students will thoroughly study photography as an expressive medium. Topics will include personal and impersonal expression, photographic styles, street photography, scenic photography, the nude in photography, photographic abstraction, symbolism in photography, and photographic sequencing. Students will complete a portfolio of photographs that are related to the course topics. The student must have access to an adjustable camera, tripod, cable release, hand-held light meter, and a gray card. *(Prerequisite: ME 452 and ME 453 or consent of the Instructor)* Offered alternate years, spring semester

ME 479 Topics in Photography (3 crs.)

Topics of current or special interest in photography. Special topics to be announced prior to registration. This course may be repeated for different topics. Offered through the Program of Continuing Education

ME 498 Internship in Media and/or Librarianship (3-15 crs.)

Offered to advanced undergraduate students who wish to acquire a supervised practical experience within their field of study. (See information in this catalogue under Academic Programs for a more complete description). *(Prerequisite: Consent of the Department)* Either semester

ME 499 Directed Study in Non-Print Media (1-3 crs.)

Open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. *(Prerequisite: Consent of the Department)* Either semester

Other Approved Courses:

ME 459 Advanced Radio and Television Production

ME 502 Research (credit to be arranged)

Original research undertaken by the graduate student in his field (i.e. nonprint instructional media). For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

ME 503 Directed Study (credit to be arranged)

Designed for the graduate student who desires to study selected topics in his field (i.e. nonprint instructional media). For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

ME 524 Seminar in Instructional Media (3 crs.)

This course is designed to carry out a systematic review and critique of media research literature and to bring about the ability to design and execute a research study pertinent to the field. Selected research and literature will be reviewed and analyzed. *(Prerequisite: EE 420 or consent of the Instructor)*

ME 553 School Public Relations (3 crs.)

The necessity for a well-informed public to foster good school public relations. All necessary media will be discussed: radio, television, newspapers, magazines, school publications, teacher-parent and administrator-teacher-parent relationships. Emphasis will be placed on communication theory.

ME 556 Operation and Control of a Radio Station and a Television Studio (3 crs.)

This course is intended for graduate students who are planning to be media specialists. It is designed to give the student an operational knowledge of the skills necessary to operate a radio station and a television studio. Production skills are also included.

ME 558 Radio and Television Production (3 crs.)

This course is intended for graduate students who are planning to be media specialists. It provides for the student with basic background in radio station and television studio operation opportunities to practice production and programming. *(Prerequisite: ME 566 or consent of the Instructor)*

ME 560 Graphics for Media Specialists (3 crs.)

This course is designed for graduate students. It is a course in intermediate graphic skills necessary for producing instructional materials and/or graphics for television. It is particularly intended for the person who is planning to be a media specialist. Course includes instruction in the use of simple mechanical lettering devices; mounting and laminating techniques; diazo and color-lift transparency production; composition and related skills. *(Prerequisite: Consent of the Instructor)*

ME 564 Administration of Media Programs (3 crs.)

This course is designed for graduate students. It covers the principles and practices of the administration of media programs, particularly from the unified media approach. Areas of study include planning, equipping, servicing, and operation. *(Prerequisite: Consent of the Instructor)*

ME 566 Cinematography II (3 crs.)

Advanced techniques of film production in all of its technical phases, including production, design, editing, and sound synchronization. *(Prerequisite: ME 466 or consent of the Instructor)*

ME 595 Professional Practicum/Internship (6 crs.)

Involves observation and participation in all important aspects of administration, including selection and organization of materials; reference and bibliographic services, and techniques of teaching media use. This course must be pursued at a media center approved by the Media and Librarianship Department at Bridgewater and may only be waived, in the case of non-certification students, if the student has had considerable experience as a media specialist in a situation acceptable to the Department. *(Prerequisite: Completion of, or enrollment in, all other courses of the program)*

Librarianship

ML 102 Introduction to Information Resources (1 cr.)

This course introduces the use of information resources, especially at the Maxwell Library, in order to attain an ability to work with the research tools and to know the services which are available. Satisfies the GER in Information Resources; must be taken within the first 30 credits at Bridgewater State College. *Either semester*

ML 300 Introduction to Unified Media Services (3 crs.)

The philosophy, functions, and evaluation of the media center in the school for future teachers, administrators, librarians, and media specialists. Correlation of the media center with the modern curriculum, the use of print and non-print materials in the media center, and the mutual cooperation of administration, faculty, and students. 40 hours of observation in a variety of school media centers is required as part of the course. *Offered alternate years, fall semester*

ML 310 Children's Literature (3 crs.)

Reading, listening and viewing interests and abilities, from pre-school through the elementary grades, as important considerations in evaluation and selection of materials; analysis of literary and artistic elements, and cultural influences of both past and present. Types include myth and folklore, poetry, modern fanciful tales, realistic fiction, and books in special fields, e.g., biography, history, and science. *Either semester*

ML 320 Literature for Young Adults (3 crs.)

Survey of literature and audio visual materials for adolescents. Includes applicable principles of adolescent psychology, a brief history of the development of this literature, criteria and aids for selection, techniques in motivation and reading guidance, and skills in reading, listening and viewing. Designed for teachers, librarians, and media specialists working with junior and senior high school students. *Spring semester*

ML 370 Reference Materials and Their Use (3 crs.)

Introduction to the basic reference books in all subject disciplines. Bibliographic search assignments give practical application of techniques using all the resources of the media center. *Spring semester*

ML 430 Management of Media Programs (3 crs.)

Principles and practices in administration and service; the role of the media center in the school's educational program, pupil instruction in media center use; the planning and equipping of the media center; and other aspects of organization. *Offered once in three years, fall semester*

ML 440 Organization of Materials (3 crs.)

Presentation of practical techniques for print and non-print cataloguing with emphasis on Dewey Decimal classification and Sears Subject Headings. Some time is given to the general processing of materials and to evaluation of commercial cataloguing services. *Offered alternate years, fall semester*

ML 452 Collection Development (3 crs.)

Criteria and policies in selection of print and non-print material for reader interest and curriculum enrichment, with emphasis on practical applications and appraisal of bibliographic aids and current review practices. *Offered only through the Program of Continuing Education.*

ML 453 Sharing Literature with Children (3 crs.)

Traditional and contemporary storytelling, reading aloud, response-centered activities, book talks, book-related film programs based on the concept of sharing as an integral part of a literature program; emphasis on selection, planning, techniques of presentation, e.g., puppets, flannelboard, hook-and-loop, and evaluation. *Offered once in three years*

ML 498 Internship in Librarianship (3-15 crs.)

Offered to advanced undergraduate students who wish to acquire a supervised practical experience within their field of study. (See information in this catalogue under *Academic Programs* for a more complete description). (*Prerequisite: Consent of the Department*) *Either semester*

ML 499 Directed Study in Library Science (1-3 crs.)

Open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. (*Prerequisite: Consent of the Department*) *Either semester*

ML 502 Research (credit to be arranged)

Original research undertaken by the graduate student in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

ML 503 Directed Study (credit to be arranged)

Designed for the graduate student who desires to study selected topics in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

ML 548 Advanced Cataloging and Classification (3 crs.)

Theoretical discussion and practical application of techniques in detailed cataloging with emphasis on Library of Congress classification and subject headings. Includes non-book cataloging.

ML 553 Foundations of Library and Information Science (3 crs.)

Form and function of classical, medieval, and scholarly libraries; the public library as the people's university; development of information centers, libraries, and media centers, and their role in contemporary society.

ML 558 Advanced Studies in Literature for Children and Young People (3 crs.)

A seminar format which offers the student an opportunity to explore recent artistic, literary, and social developments in books and media for the young, or for study of particular genres or themes. (*Prerequisite: ML 310 or 320 or consent of the Instructor*)

ML 559 Advanced Reference I (3 crs.)

Research methods using specialized reference sources, professional journals, and audio-visual materials, intended for *retrospective* studies in history, literature, music, philosophy, religion, and the arts. (*Prerequisite: ML 370*)

ML 560 Advanced Reference II (3 crs.)

Research methods using specialized reference sources, professional journals, government documents, microforms, and audio-visual materials, intended for the study of the social and behavioral sciences and services, and pure and applied science and technology, focusing on contemporary materials and topics. (*Prerequisite: ML 370*)

ML 566 Computer and Systems Design for Small Libraries (3 crs.)

Survey of developments in information retrieval and other library applications of modern procedures in acquisition, circulation, management, and periodical control. (*Prerequisite: Permission of the Instructor*)

ML 569 The Book Arts (3 crs.)

Traces the development of the written word from the earliest alphabet to today's computerized publishing. The history, art, and science of the book include field study of book production; manuscripts, rare books and bindings; and award-winning books.

ML 576 Research Problems in Library Literature (3 crs.)

Designed for special projects for advanced students desiring individual instruction in the methods of library research. (*Prerequisite: Consent of the Department*)

ML 590 Seminar on Librarianship (3 crs.)

Intended as a culminating exercise in administrative librarianship. It will include study and analysis of current problems and issues in library administration. Students will seek solutions to these through reading and research. (*Prerequisite: A minimum of 12 credit hours in Library Science and consent of the Advisor*)

ML 595 Professional Practicum (6 crs.)

Involves observation and participation in all important aspects of administration, including selection and organization of materials; reference and bibliographic services, and techniques of teaching library use. This course must be pursued at a media center approved by the Media and Librarianship Department at Bridgewater and may only be waived, in the case of non-certification students, if the student has had considerable experience as a media specialist in a situation acceptable to the Department. (*Prerequisite: Completion of, or enrollment in, all other courses in the program*)



Department of Music

Chairperson: Professor Ian Johnstone
Professors: Maxine Asselin, Jacob Liberles
Associate Professors: Dorothy Ferry, Vincent Gannon,
Henry Santos

Undergraduate Programs

The Music Department offers a minor in music for the student pursuing a B.A. or B.S. degree as well as courses which satisfy the General Education Requirements, and instruction in piano and voice. In addition, performing organizations are available for the student who wishes to take a more active part in music.

Students must notify and receive approval from the Music Department chairperson for acceptance as a music minor. A grade C or better is expected for all music course work in the program.

Certain music courses may be waived pending consultation with the music department chairperson and/or completion of proficiency tests.

Music Minor for Liberal Arts Students

3 credits in voice or 3 credits in piano:

MU 130 Voice Class I
MU 131 Applied Voice I
MU 230 Voice Class II
MU 331 Applied Voice II

MU 141 Applied Piano I
MU 240 Class Piano II
MU 341 Applied Piano II

MU 171 Music Theory I
MU 172 Music Theory II
MU 160 Listening to Music

Select from the courses listed below to total 21 credits:

MU 167 The Music of Black Americans
MU 274 Creating Music
MU 320 Class Recorder
MU 360 Listening and Analysis of Music
MU 361 Forces in Modern American Music: Jazz
MU 364 Music for the Classical and Romantic Periods
MU 368 Folk Music of Canada

Music Minor for Elementary and Special Education Students

MU 130 Voice Class I

or

MU 230 Voice Class II

MU 140 Class Piano I

MU 240 Class Piano II

MU 160 Listening to Music

or

MU 360 Listening and Analysis of Music

MU 255 Music Materials for Elementary Teachers

Plus two additional courses as selected in conjunction with the music department chairperson.

Graduate Programs

The Department of Music offers courses at the graduate level which may be taken in the Division's Master of Arts in Teaching and CAGS programs in creative arts. A diverse and appropriate program of study in music is ensured when the student works closely with the advisor in course selection.

More detailed information regarding this program may be found under the Division of Humanities and Creative Arts, as well as in the Graduate School section of this catalogue.

The departmental offerings listed below include the following courses which may not be taken for graduate credit:

Any course at the 100 level

MU 230 Voice Class II

MU 240 Class Piano II

MU 331 Applied Voice II

MU 341 Applied Piano II

MU 499 Directed Study in Music



Course Offerings*

‡MU 115 Instrumental Ensemble (1 cr.)

A mixed group of instruments which performs music originally written for that particular combination of instruments. Ensembles formed as the occasion demands. One three-hour period weekly. (Prerequisite: Consent of the Instructor) Either semester

‡MU 118 Chorale (1 cr.)

A selected group of mixed voices which performs works representative of many periods of music and presents concerts throughout the academic year, at times with other college groups on and off campus. Three periods weekly. (Prerequisite: Consent of the Instructor) Either semester

‡MU 119 Vocal Ensemble (1 cr.)

A mixed group of voices which is organized to perform a particular type of music. Ensemble formed as the occasion demands. Three periods weekly. (Prerequisite: Consent of the Instructor) Either semester

MU 130 Voice Class I (3 crs.)

Through the performance of songs of different nationalities, the student gains knowledge of basic vocal technique, general musicianship and terminology. Satisfies the GER in Artistic Modes of Expression (studio course). Either semester

MU 140 Class Piano I (3 crs.)

Through the performance of compositions by master composers and arrangements of symphonic literature, folk songs, spirituals, seasonal and patriotic songs, the beginning piano student learns basic piano technique, elementary theory, general musicianship, terminology and the different stylistic periods in music. Satisfies the GER in Artistic Modes of Expression (studio course). Either semester

MU 141 Applied Piano I (1 cr.)

Private instruction for the beginning piano student and those with limited background in piano. Material selected according to the ability of the student. One half-hour period weekly. May be repeated for credit. (Prerequisite: Consent of the Instructor) Either semester

MU 150 Classroom Music (3 crs.)

An integrated approach to the use of music in the elementary school which serves to enhance the student's knowledge and ability to use music in the classroom. Either semester

MU 160 Listening to Music (3 crs.)

This non-technical course explores music from the Baroque period through the Contemporary period with emphasis on how to listen to music intelligently. Selected works include symphonies, concerti, oratorios, operas and smaller works. Satisfies the GER in Artistic Modes of Expression. Either semester

MU 161 American Music of the Twentieth Century (3 crs.)

This course surveys the history and development of music in America in the twentieth century, noting sources in Central America and Europe. The impact of American music on the music of other cultures will be studied. Satisfies the GER in Artistic Modes of Expression. Fall semester

MU 162 Music in African Culture (3 crs.)

This course surveys the musical traditions of Africa with respect to their historical, social and cultural backgrounds. Musical organizations, instrumental and vocal techniques and important aspects of style are treated. Satisfies the GER in Non-Western Civilization.

MU 167 The Music of Black Americans (3 crs.)

This course introduces the history of black American music. The contribution of the Afro-American style to the European-based musical tradition will be stressed. Formerly MU 367. Satisfies the GER in Artistic Modes of Expression. Fall semester

MU 170 Basic Music (3 crs.)

This course presents basic theory of music. Melodic notation in two clefs, major and minor scales, intervals and triads are necessary components studied. Rhythmic notation in three basic meters completes the understanding of fundamental musical language. Satisfies the GER in Artistic Modes of Expression.

MU 171 Music Theory I (3 crs.)

Beginning harmony and counterpoint: writing in small forms and chorale harmonizations, written exercises, ear training and keyboard work. (Prerequisite: MU 140, MU 170, or consent of the Instructor) Fall semester

MU 172 Music Theory II (3 crs.)

A continuing technical course in the study of 18th and 19th century harmony. Seventh chords through chords of the augmented sixth. Figured bass, analysis, harmonization of melody. Principles of strict counterpoint continued. Spring semester

MU 230 Voice Class II (3 crs.)

A continuation of Voice Class I dealing with further development of German lieder and performance practices. (Prerequisite: MU 130 or consent of the Instructor) Spring semester

MU 240 Class Piano II (3 crs.)

This course presents a detailed study of works from the Baroque to the Contemporary periods. The student gains facility in the art of phrasing, use of dynamics and attention to tempos. Satisfies the GER in Artistic Modes of Expression (studio course). Either semester

MU 255 Music Materials for Elementary Teachers (3 crs.)

For those who wish to become more actively involved with music in the classroom. Includes singing, use of instruments, listening, reading music, and rhythmic activity. (Prerequisite: MU 150, MU 170, or consent of the Instructor) Spring semester

MU 270 Sightsinging and Ear Training (3 crs.)

This course attempts to raise the level of competency in music reading through series of graded solfege and ear training exercises. Offered once every three years

MU 274 Creating Music (3 crs.)

An exploration and organization of the many sounds around us to create music. Skills in performance and knowledge of music fundamentals are utilized and continually developed. All creative endeavors are performed, discussed and evaluated in class. Formerly MU 370. Spring semester

MU 341 Applied Piano II (1 cr.)

For the advanced student of piano who wishes to improve his ability at the keyboard. Material selected according to the ability of the student. One half-hour period weekly. May be repeated for credit. (Prerequisite: MU 141 or consent of the Instructor) Either semester

*See pages 66-67 for general information regarding course offerings.

‡From MU 115, 118 and 119, and from any and all co-curricular activities in which a student might wish to participate and for which the College grants or may decide to grant credit in the future, a student may accumulate not more than one (1) credit per semester, nor more than two (2) per year, nor more than six (6) per college career.

MU 355 Creative Activities in Elementary School Music (3 crs.)
Practical experience offered in free and directed rhythmic responses, use of melody, percussion and chording instruments, use of the piano, and singing activities. (*Prerequisite: MU 150, MU 170, or consent of the Instructor*) *Offered alternate years*

MU 361 Forces in Modern American Music: Jazz (3 crs.)
The course will trace the development of Jazz from 1890 to the present, noting its relation to the mainstream of American Music and its influence on European composers and listeners. *Spring semester*

MU 453 Music for Early Childhood (3 crs.)
Designed for elementary education students, teachers and those interested in primary grades. The study of music as it relates to the developmental process of children of nursery, kindergarten and primary grades. Program planning, activities and materials which help promote musical growth in children and music skills for the teacher. Special attention is given to singing, listening and use of recorded materials. (*Prerequisite: Permission of the Instructor*) *Offered once every three years*

MU 499 Directed Study in Music (1-3 crs.)
Open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. (*Prerequisite: Consent of the Department*) *Either semester*

Other Approved Courses:

MU 113 Stage Band
MU 117 Women's Glee Club
MU 131 Applied Voice I
MU 251 Conducting
MU 320 Class Recorder
MU 331 Applied Voice II
MU 360 Listening and Analysis of Music
MU 364 Music for the Classical and Romantic Periods
MU 368 Folk Music of Canada
MU 413 Advanced Choral Conducting
MU 456 Introduction to Orff-Schulwerk

MU 502 Research (credit to be arranged)
Original research undertaken by the graduate student in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

MU 503 Directed Study (credit to be arranged)
Designed for the graduate student who desires to study selected topics in his field. For details consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

MU 511 Advanced Choral Literature (3 crs.)
Study and preparation of music from varied historical style periods with primary emphasis on polychordal music, American composers and Avant Garde music. (*Prerequisite: MU 251 or permission of the Instructor*)

MU 512 Contemporary Trends in Choral Literature (3 crs.)
Study and preparation of the newest styles and techniques of current choral composers ranging from spoken chorus to choral dramatics. (*Prerequisite: MU 251 or permission of the Instructor*)

MU 552 Seminar in Music Education Problems (3 crs.)
After current problems in the music education field have been recognized and analyzed, an attempt will be made to arrive at reasonable solutions which are educationally and musically sound. (*Prerequisite: MU 251 or permission of the Instructor*)

MU 553 Contemporary Trends in Music Education (3 crs.)
Discussion, exploration and evaluation of new projects, ideas and philosophies in music education since 1950. Includes study of Impact, Contemporary Music Project, Yale Seminar, Julliard Repertory Project, Manhattanville Music Curriculum, trends in college curricula, the Music Laboratory as a new structure for learning, and new trends in the art of music and its application to the classroom. (*Prerequisite: MU 255 or consent of the Instructor*)

MU 554 Research in Music Education (3 crs.)
Sources, methods and types of research used in scholarly inquiry, including techniques used in planning and conducting a survey.

MU 561 Music and Communication (3 crs.)
Critical approaches to music and its relation to the other arts and ideas. The course will stress student thinking about what music is and what music does. (*Prerequisite: MU 160 or equivalent*)

Department of Philosophy and Religious Studies

Chairperson: Professor Edward James
Professors: Milton Boyle, David Cheney,
 Steven Sanders
Professor of Education/Philosophy:
 Robert E. Fitzgibbons
Associate Professor: Francine Quaglio

Philosophical inquiry aims at clear, logical, critical thinking about a variety of perennial human concerns. These include questions about values, the nature of knowledge and truth, the meaning of life, the understanding of experience, the possibility of religious knowledge, and many others. The Department offers courses in the main problems of philosophy, the history of philosophy, and the methods of philosophy as a mode of critical thinking.

Undergraduate Programs

Bachelor of Arts

The department offers a major program in philosophy which involves study of the history of philosophy and the main problems of ethics, epistemology—metaphysics, logic and language and other elective areas.

Philosophy Major

A minimum of ten philosophy courses (30 credits), with at least eight courses (24 credits) above the 100 level. A grade of "C" or higher is required in all philosophy course work contributing to the major. Philosophy majors intending to go to graduate school should develop proficiency in either French or German.

Satisfactory completion of at least one course in each of the following areas - Logic, Epistemology, Ethics, and Philosophy of Mind - is normally required of all philosophy majors by completing the following courses:

PL 401 Symbolic Logic
 PL 402 Problems of Experience, Knowledge
 and Perception
 PL 403 Ethical Theory
 PL 404 Theories of Mind

Philosophy Minor

For a minor in philosophy, a student must complete six philosophy courses (18 credits). Interested students should contact the chairperson in order to discuss an individual program relevant to the academic major.

Religious Studies Minor

The study of religion includes course offerings from several academic departments outside the parent, Department of Philosophy and Religious Studies. Students choosing this minor will be encouraged to represent as many different subject areas as is feasible and should elect courses only after consultation with the advisor in the Religious Studies Minor. The minor requires successful completion of six courses (18 hours) with at least two courses with RE or PR and the remaining credits from any RE or PR courses, or from courses in the following list:

AN 207 Anthropology of Religion
 AN 211 Myth and Culture
 GS 300 Geography of the Bible
 HI 302 Jews & Christians in the Ancient
 Roman World
 HI 306 The Renaissance and Reformation
 SO 308 Sociology and Religion
 SO 321 Religion and Society in Asia
 Biblical Greek and Hebrew are offered upon demand. From time to time new courses will be added to this list and occasionally appropriate topics courses and seminars are given. Questions should be directed to the advisor for the Religious Studies Minor or the Chairperson of the Department of Philosophy and Religious Studies.

Graduate Programs

The department does not offer a program in philosophy or religious studies at the master's degree level, but does participate in programs leading to the degrees of Master of Arts in Humanities and Master of Arts in Teaching with a concentration in humanities. Philosophy and religious studies courses, if approved by the faculty advisor, may be taken in partial fulfillment of master's degree requirements. More detailed information regarding these programs may be found under the Division of Humanities and Creative Arts, as well as in the Graduate School section of this catalogue.

The departmental offerings listed below include the following courses which may not be taken for graduate credit:

All philosophy courses numbered at the 100 level

PL 499 Directed Study in Philosophy

RE 499 Directed Study in Religious Studies



Course Offerings*

Philosophy

Only one course from the following may be taken for credit:

- PL 110 Reasoning and Value
- PL 120 Reasoning and Human Nature
- PL 130 Reasoning and Politics
- PL 150 Reasoning and Science
- PR 120 Philosophy, Religion and Moral Issues
- PR 130 Religion, Reason and Revelation
- PR 170 Theology and Reason

PL 110 Reasoning and Value (3 crs.)

This course introduces the skill of critical reasoning--i.e., the recognition and development of valid arguments--first, by developing a general understanding of argument, and second, by examining key philosophical issues in morality, such as: What is morality? Are there any universal values or principles which all persons should recognize? Are there any rational ways to resolve moral disagreements? Satisfies the GER in Philosophy/Religion. *Either semester*

PL 120 Reasoning and Human Nature (3 crs.)

This course introduces the skill of critical reasoning--i.e., the recognition and development of valid arguments--first, by developing a general understanding of argument, and second, by examining key philosophical issues concerning human nature, such as: What is a person? Who or what am I? Are human acts free or determined? Is it reasonable to believe in life after death? Satisfies the GER in Philosophy/Religion. *Either semester*

PL 130 Reasoning and Politics (3 crs.)

This course introduces the skill of critical reasoning--i.e., the recognition and development of valid arguments--first, by developing a general understanding of argument, and second, by examining key philosophical issues in politics, such as: What, if anything, is the legitimate purpose of government? What is the best form of government? To what extent, if any, are we obligated to obey the law? What are rights and how do we get them? Satisfies the GER in Philosophy/Religion. *Either semester*

PL 150 Reasoning and Science (3 crs.)

This course introduces the skill of critical reasoning--i.e., the recognition and development of valid arguments--first, by developing a general understanding of argument, and second, by examining key philosophical issues in science, such as: Is there a scientific method? Are science and faith mutually exclusive? Is there "a scientific view" of persons? Is science value-free? Satisfies the GER in Philosophy/Religion. *Either semester*

All philosophy courses above the 100 level will normally have a prerequisite of one 100 level course. In addition, PL 350 Philosophy Seminar, PL 499 Directed Study in Philosophy, PL 502 Research, and PL 503 Directed Study will require consent of the Instructor and/or department.

PL 201 Theories of Happiness (3 crs.)

This course examines theories of the nature of happiness. What is happiness? How can happiness be attained? Are the emotions a reliable guide to happiness? To what extent does being rational contribute to happiness? Discussion will include one or more of the following philosophers and schools of thought: Plato, Aristotle, Stoicism, Epicureanism, Judaism, Christianity, Spinoza, Mill, Dostoevsky, Schopenhauer, Nietzsche, Freud. *Offered once in three years, fall semester*

PL 202 Practical Reasoning (3 crs.)

This basic skills course is designed to help the student in the areas of organizing ideas and reasoning about matters of practical interest, including strategies for dealing with disagreements; planning for goals and the future; resolving interpersonal conflicts of interest. Emphasis will be placed on in-class case analysis and problem solving involving editorials, advertising, statistics, cause-and-effect reasoning, and emotive language. *Offered alternate years, fall semester*

PL 204 Sex and Personal Relations (3 crs.)

This course philosophically explores issues, concepts, and arguments concerning sex and relations between persons, including our treatment of persons; feminism; sexism and the language of sex; sexual conduct and morality; sex and love versus sex without love; norms, values, and alternative sexual life-styles; pornography and respect for persons. *Offered alternate years*

PL 205 Medical Ethics: Issues of Life and Death (3 crs.)

Is abortion ever justified? Is euthanasia ever justified? Does "the doctor" have the right to withhold information from patients? Does the patient ever have the right to refuse life-saving treatment? Or the particular forms of life-saving treatment? Do the parents or the society have the right to determine what is the best treatment, if any, for a child? Is suicide ever justifiable? What, if any, are the limits of scientific inquiry regarding persons and life? On what basis should limited medical resources be allocated? *Offered alternate years, fall semester*

PL 206 Liberation Ethics: Sexism, Racism, Agism, and Third World Issues (3 crs.)

Under what conditions, if any, are we justified in classifying women, blacks, Chicanos, the aged, the poor as oppressed groups? Do oppressed groups have the right to revolt? To practice civil disobedience? Do the majority have the right to "keep in their place" moral dissidents? Do the affluent of the world owe oppressed groups, or members of oppressed groups, some of their wealth? Is preferential treatment--in the form of education or hiring or some "headstart" program--justifiable?

PL 210 Business Ethics (3 crs.)

Is business bluffing ethical? Does one have the right or obligation to report one's own company's illegal or unethical practices? What are the ethics, if any, of advertising? What is "preferential treatment," and is it ever justifiable? Does a firm have an obligation to society? Should government ever regulate business? Should "ethics"--e.g., a concern for the common good, one's duty, or religious morality--determine business practice?

*See pages 66-67 for general information regarding course offerings.

PL 301 Great Philosophers: Ancient to Renaissance (3 crs.)

This course treats selected works of major philosophers and schools of thought from the Pre-Socratics through the Renaissance, e.g., Plato, Aristotle, Plotinus, Augustine, Aquinas, Pico della Mirandola, Machiavelli, Erasmus, Bacon.

PL 302 Great Philosophers: Modern (3 crs.)

This course treats selected works of major philosophers and schools of thought from the post-Renaissance period through modern times, e.g., Hobbes, Descartes, Spinoza, Locke, Hume, Berkeley, Leibniz, Kant, Hegel, Schopenhauer, Kierkegaard, Nietzsche, Mill, and Marx.

PL 322 Philosophy of Law (3 crs.)

This course examines the problems of legal reasoning, the nature of justice, and the main theories of law--legal realism, legal positivism, natural law--and these issues: Should the law interfere with the liberty of individuals to do as they please? If so, for what purposes? How should the legal system regard those who violate the law as a matter of conscience? Does law create or acknowledge rights? How is legal responsibility determined? Is punishment rationally defensible? *Offered alternate years, fall semester*

PL 324 Existentialism (3 crs.)

This course surveys the influence of Kierkegaard, Nietzsche, and Husserl on existentialism, followed by a study of the ideas of Sartre, Heidegger, and Jaspers about consciousness, freedom, value, choice, death, authenticity and inauthenticity. *Offered alternate years*

PL 325 Philosophy and the Arts (3 crs.)

This course is an inquiry into recurrent philosophical themes in literature and the fine arts, accompanied by an introduction to the fundamental problems of aesthetics. *Offered alternate years*

PL 328 American Philosophy (3 crs.)

This course studies the major periods and thinkers of American thought--e.g., Puritanism and Jonathan Edwards, Enlightenment and Thomas Jefferson, Transcendentalism and Ralph Waldo Emerson, Naturalism and John Dewey, Pragmatism and William James, Idealism and Josiah Royce, Realism and Charles Sanders Pierce--as well as the ideas of contemporary thinkers. *Offered alternate years, spring semester*

PL 338-339 Honors Tutorial (3 crs. each semester)

Special topics in Philosophy. Open to All-College and Departmental Honors students. Three hourly meetings weekly. (*Prerequisite: Consent of the Department*) *PL 338 fall semester, PL 339 spring semester*

PL 350 Philosophy Seminar (3 crs.)

This course studies a particular philosopher and/or selected philosophical problems. Topics vary; course may be repeated. (*Prerequisite: Consent of the Instructor*) *Offered alternate years*

PL 401 Symbolic Logic (3 crs.)

This course develops the theory and technique of symbolic logic to expose hidden presuppositions, to distinguish valid from invalid reasoning, and to present precise, sound arguments of one's own. *Offered alternate years*

PL 402 Problems of Experience, Knowledge and Perception (3 crs.)

This course is an historical survey of the main issues and theories in epistemology, followed by contemporary views about such questions as: Does knowledge have a foundation or is it merely an historical achievement, reflecting cultural needs? Is there a distinction between knowledge and belief? Is it possible to validate procedures of inquiry while avoiding both dogmatism and circularity? Is there a rational basis for claims to know the future? Is perception a form of knowledge? *Offered alternate years*

PL 403 Ethical Theory (3 crs.)

This course is an historical survey of the main issues and theories in moral philosophy, followed by contemporary views about such questions as: What is the moral point of view? Does morality conflict with self-interest? Is it rational to be moral? Can we justify our most fundamental moral principles? Is there an objective way to choose between alternative moralities or life-styles? Why should we be moral? *Offered alternate years*

PL 404 Theories of Mind (3 crs.)

This course is an historical survey of the main issues and theories in philosophical psychology, followed by contemporary views about such questions as: What is consciousness? Is consciousness identical to brain states? Are mind and body distinct entities? Can we ever know the thoughts and feelings of another person? Can thoughts influence physical events? Can machines think? Could we construct a robot with human feelings? -- and if so, would it have rights and obligations? *Offered alternate years*

PL 407 Philosophy of Science (3 crs.)

What is a science? Does science have a method? If so, does its method make it superior to literature, religion, the "humanities"? Are terms like "electron," "gene," or "society" merely tools for prediction or do they refer to actual entities? What is the relation between the physical and social sciences? Should the social sciences seek to be like the physical sciences? Is history a science? Can or should the social sciences seek to avoid value claims? *Offered alternate years*

PL 485 Honors Thesis (3 crs.)

This course is open to All-College and Departmental Honors students. One-hour weekly meetings with the thesis director will culminate in an honors thesis. With the consent of the Departmental Honors Committee and the thesis director, this course may be extended into a second semester for three additional credits depending upon the scope of the project. Whether the final version of the thesis qualifies the student to graduate with honors will be determined by the Departmental Honors Committee. *Either semester*

PL 499 Directed Study in Philosophy (1-3 crs.)

This course is open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. (*Prerequisite: Consent of the Department*) *Either semester*

Other Approved Courses:

PL 100 Skepticism, Knowledge and Reality
PL 140 Rational Thinking
PL 405 Philosophy of Language

PL 502 Research (credit to be arranged)

Original research undertaken by the graduate student in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

PL 503 Directed Study (credit to be arranged)

Designed for the graduate student who desires to study selected topics in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

The following interdisciplinary courses cover subjects which are of common concern to the fields of Philosophy and Religious Studies. They may be elected in partial fulfillment of requirements for the major in Philosophy and the minor in Religious Studies.

PR 120 Philosophy, Religion and Moral Issues (3 crs.)

This course is a comparative study of contemporary moral issues from philosophical and religious points of view. The philosophical principles of critical thinking will be surveyed and used through the course and compared with theological principles of reason and faith as used by religion and its edicts on moral issues, including the rights to life and death, sexual relationships, bio-ethics, war and peace and liberation. Satisfies the GER in Philosophy/Religion.

PR 130 Religion, Reason and Revelation (3 crs.)

This course introduces the study of religion through consideration of basic religious views of God, humanity and nature. Examples are primarily drawn from the Judeo-Christian tradition. This course studies how religious thinkers use rational analysis and revelation. Satisfies the GER in Philosophy/Religion.

PR 170 Theology and Reason (3 crs.)

This course considers traditional theological issues concerning the nature and existence of God and God's relationship to humanity and the universe. The course critically analyzes such questions as: can God be known through reason? Is God manifest in nature? Are natural processes independent of the supernatural? Satisfies the GER in Philosophy/Religion.

PR 251 The Meaning of Life (3 crs.)

This course discusses questions that arise in our attempts to understand the meaning of life, including: Does life have a meaning? Does death deprive life of meaning? Does religion constitute the best, or final, answer to questions of the meaning of life? Is the meaning of life the same for everyone or does each individual give his own life meaning? Can we conclusively answer, or even rationally discuss, questions about the meaning of life? Includes an examination of religious, humanistic, and existentialist theories in the meaning of life. *Offered alternate years*

PR 252 Philosophies of India (3 crs.)

This course presents and scrutinizes some of the central ideas and issues found in past and contemporary Vedanta, Yoga, Hinayana Buddhism and Mahayana Buddhism. Such key notions from karma to the bodhisattva are critically considered in the light of both Indian and Western paradigms. Satisfies the GER in Non-Western Civilization. *Offered alternate years, fall semester*

PR 253 Philosophies of China and Japan (3 crs.)

This course presents and scrutinizes some of the central ideas and issues of Confucian, Taoist, and Buddhist thought, as they developed and are found in past and contemporary Buddhist thought, and as they developed in China and Japan. Such key positions from Confucianism to Zen will be critically considered in the light of Eastern and Western paradigms. Satisfies the GER in Non-Western Civilization. *Offered alternate years, spring semester*

PR 310 Religion and Science (3 crs.)

This course studies the relationships between Religion and the Sciences. Beginning with historical perspectives, the course will compare methods, language and issues. *Offered once in three years*

PR 351 Religion, Faith and Reason (3 crs.)

This course critically examines the nature and justification of religious claims, including discussion of: What are the grounds for belief or disbelief in God's existence? Is religious discourse meaningful? Do faith and reason conflict? Is belief in immortality intelligible and/or defensible? Is religious knowledge possible? Are revelation and religious experience reliable sources of truth? Is it rational to believe in miracles? Is atheism a religion? *Offered once in three years*

Religious Studies

RE 150 Arabia, Muhammed and Islam (3 crs.)

The course studies the origins, historical development and beliefs of Islam from the time of Mohammed to the present. The Islamic view of the modern world and its importance for the contemporary world is noted. Islamic beliefs and practices are compared with those of Judaism and Christianity. Satisfies the GER in Non-Western Civilization.

RE 170 Middle Eastern Islamic Literature (3 crs.)

This course studies the literature of Middle Eastern Islam in its cultural setting from the writing of the Qur'an Prose, poetry and drama by such authors as Omar Khayyam, Rumi, Hafiz, Khalifah and Sa'di are analyzed to illuminate contemporary Islamic culture. Comparison is made with Jewish and Christian literatures. Satisfies the GER in Non-Western Civilization.

RE 199 Comparative Religion: Eastern (3 crs.)

The course examines the origins, development and basic tenets of the major eastern religions, including Buddhism, Hinduism, Taoism, Confucianism and Shintoism. The course compares their views of God, humanity and nature. Variations from common western views are noted. Satisfies the GER in Non-Western Civilization.

RE 201 Comparative Religion: Western (3 crs.)

This course examines the origins, development, and basic tenets of the major world religions from earliest times to the Moslem era, with particular emphasis on ancient Near East religions: Judaism, Christianity, and Islam. *Offered once in three years*

RE 221 Introduction to the Old Testament (3 crs.)

This course presents the historical and cultural background, literature and interpretation of the Old Testament. *Offered alternate years, fall semester*

RE 222 Introduction to the New Testament (3 crs.)

This course presents the historical and cultural background, literature and interpretation of the New Testament. *Offered alternate years, spring semester*

RE 251 Religion in Contemporary America (3 crs.)

This course considers the organization, practices and beliefs of current American religious organizations set in their historical and cultural perspectives. Roman Catholic, Eastern Orthodox, Jewish and Protestant denominations will be included in the study. The role of the church in the modern American community will be assessed and recent trends within and without the church will be discussed. The study will include such theological topics as Honest-to-God, God is Dead, The Theology of Hope, The Secular City and the so-called Jesus movement. *Offered alternate years*

RE/HI 300 Mystery Religions (3 crs.)

The course will examine the survival of Greek religion in the empire of Alexander the Great and his successors, and the interaction of the Greek religion with the religions of the Ancient Near East under the new conditions and circumstances created by Alexander's conquests. *(Prerequisite: Satisfactory completion of requirements for 300 and 400 level history courses) Offered alternate years*

RE 315 Topics in Religious Studies (3 crs.)

This course examines a special topic in the area of religious studies. *(Prerequisite: Consent of the Instructor) Spring semester*

RE 338-339 Honors Tutorial (3 crs. each semester)

Special topics in Religious Studies. Open to All-College and Departmental Honors students. Three hourly meetings weekly. *(Prerequisite: Consent of the Department) RE 338 fall semester, RE 339 spring semester*

RE 485 Honors Thesis (3 crs.)

This course is open to All-College and Departmental Honors students. One-hour weekly meetings with the thesis director will culminate in an honors thesis. With the consent of the Departmental Honors Committee and the thesis director, this course may be extended into a second semester for three additional credits depending upon the scope of the project. Whether the final version of the thesis qualifies the student to graduate with honors will be determined by the Departmental Honors Committee. *Either semester*

RE 499 Directed Study in Religious Studies (1-3 crs.)

This course is open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. *(Prerequisite: Consent of the Department) Either semester*

Other Approved Courses:

RE 202 Comparative Religion: Eastern

RE 502 Research (credit to be arranged)

This course is for original research undertaken by graduate students in their respective fields. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue. *(Prerequisite: Approval of the Advisor)*

RE 503 Directed Study (credit to be arranged)

This course is designed for graduate students who desire to study selected topics in their respective field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue. *(Prerequisite: Approval of the Advisor)*

Department of Physics

Chairperson: Professor Richard F. Calusdian
Professors: Grace Healy, Felix S. Palubinskas,
 George A. Weygand
Associate Professor: Raymond L. Blanchard

The Department of Physics strives to provide students with the necessary skills and knowledge to pursue successful careers in research, teaching, or further study in graduate programs. Programs in physics culminating in the degrees of Bachelor of Arts, Bachelor of Science, and Master of Arts in Teaching are offered.

Undergraduate Programs

Bachelor of Arts/ Bachelor of Science

The Department of Physics offers a program leading to the Bachelor's degree in Physics. This program is sufficiently flexible to prepare a student for graduate school, industry, or secondary school teaching. Each student can plan a physics program with the help of a faculty advisor, to meet specific future needs.

Students who are contemplating majoring in this department should be aware of the sequential nature of the course offerings. It is of prime importance that such students consult with the Chairperson of the Department as soon as possible. This will enable them to plan their programs so that degree requirements may be completed within a four-year period.

The department participates in a number of multidisciplinary programs for students preparing for careers in medicine, dentistry, or oceanography. Additional information on these programs may be found under *Undergraduate Multidisciplinary and Pre-Professional Programs*.

Physics Major

PH 243-244 General Physics I-II
 PH 375 Wave Theory
 or
 PH 385 Optics
 PH 387 Modern Physics
 PH 388 Electricity and Magnetism
 PH 389 Mechanics
 PH 403 Mathematical Physics
 CH 141-142 Inorganic Chemistry with
 Qualitative Analysis I-II
 MA 101-102 Calculus I-II
 MA 201 Calculus with Analytic Geometry III
 MA 316 Differential Equations
 or their equivalent

Physics Minor

18 credits in Physics acceptable for the physics major.

Physical Science Minor

18 credits in Physics and Chemistry.

Computer Electronics Concentration

PH 243-244 General Physics I-II
PH 376 Electronic Circuits
PH 387 Modern Physics
PH 388 Electricity and Magnetism
PH 392 Digital Electronics I
PH 394 Digital Electronics II
PH 403 Mathematical Physics
PH 430 Computer Technology

Plus one of the following:

PH 385 Optics

PH 386 Optical Electronics

or

PH 398 Solid State Electronics

Cognate requirements:

MA 101-102 Calculus I-II

MA 201 Calculus with Analytic Geometry III

MA 316 Differential Equations

CH 141-142 Inorganic Chemistry with

Qualitative Analysis I-II

At least six credits in Computer Science

Computer Electronics Minor

PH 243 General Physics I
PH 244 General Physics II
PH 392 Digital Electronics
CH/PH 260 Microprocessors-Microcomputer
Technology
CH 396 Introduction to Laboratory Automation

Geophysics Minor

A minor is jointly offered with the Department of Earth Sciences and Geography. For further information contact the department chairpersons.

Graduate Programs

Master of Arts in Teaching

The Department of Physics offers programs leading to the degree of Master of Arts in Teaching with concentrations in physics and physical sciences. These programs are designed primarily to meet the varied needs of graduate students who are currently teaching at the secondary school level. They also provide a foundation for further graduate work in either of these areas. All accepted students must enroll under the direction of their advisor in GS 501 Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue. Degree requirements include a minimum of 12 appropriate graduate credits in designated areas of professional study (consult M.A.T. degree requirements in the Graduate School section of this catalogue), and a minimum of 18 appropriate graduate credits in the major field (approved by the program advisor on the basis of the background, interests, and needs of the student).

The departmental offerings listed below include the following courses which may not be taken for graduate credit:

All physics courses at the 100 level

PH 200 Survey of Physics

PH 270 Transportation for the Future -
Physical Implications

PH 301 Physics of Sports

PH 390 Research Problems in Physics

PH 499 Directed Study in Physics

Course Offerings*

PH 100 Physics in the Natural World (3 crs.)

This course considers the key scientific concepts underlying physics and how they relate to the environment. Among the topics to be considered are mechanics, heat, electricity, magnetism, optics and sound, modern physics and an historical overview of the physical sciences. This is suitable for those from a variety of majors other than the Physical and Biological Sciences seeking basic knowledge of physics. Two hours of lecture and one two-hour lab weekly. Satisfies the GER in Physical and Biological Sciences. Either semester

PH 102 Modern Physics for the Humanist (3 crs.)

The principle theme of this course is 20th century attempts to understand the basic laws of nature and their relationship to us. Among the topics to be considered are classical physics, the theory of relativity, atomic structure and quantum theory along with their implications for philosophy and technology. Formerly PH 202. Satisfies the GER in Physical and Biological Sciences (non-lab course).

PH 104 Physical Science for the Elementary School I - Physical Aspects (3 crs.)

A survey of the physical science concepts included in the elementary school curricula. Content is based upon science materials in several national elementary science curricula, including ESS, SCIS, SAPA, Health and others. Two lecture periods and one two-hour laboratory weekly. Either semester

PH 180 Energy and its Social Uses (3 crs.)

The basic physical laws of energy are presented. Environmental consequences of solar, fossil, hydro and nuclear energy generation are analyzed. Formerly PH 280. Satisfies the GER in Physical and Biological Sciences (non-lab course). Fall semester.

PH 181 Elements of Physics I (3 crs.)

The language and methods of physics as illustrated in mechanics, heat and sound are studied. Applications of fundamental principles of physics to all branches of physical science are examined. Two hours of lecture and one two-hour lab weekly. Satisfies the GER in Physical and Biological Sciences. Fall semester

PH 182 Elements of Physics II (3 crs.)

Principles of electricity, magnetism, optics and modern physics. Two lecture periods and one two-hour laboratory period weekly. (Prerequisite: PH 181) Spring semester

PH 191 Engineering Physics I (4 crs.)

Mechanics, properties of Matter, Fluid Flow, and Heat with applications to engineering. Three lectures weekly; one three-hour lab weekly. (Prerequisite: MA 101 taken concurrently) Fall semester

PH 192 Engineering Physics II (4 crs.)

Electricity, magnetism, sound, and optics with engineering applications. Three lecture hours weekly; one hour lab weekly. (Prerequisite: PH 191; MA 102 taken concurrently) Spring semester

PH 243 General Physics I (4 crs.)

This is a calculus-based beginning course in physics which emphasizes the study of kinematics, dynamics and heat. Three hours of lecture and one three-hour lab weekly. (Prerequisite: MA 101 or equivalent) Satisfies the GER in Physical and Biological Sciences. Fall semester

PH 244 General Physics II (4 crs.)

Calculus-based study of electricity, magnetism and light. Three lecture periods and one three-hour laboratory period weekly. (Prerequisite: PH 243) Spring semester

PH/CH 260 Microprocessors - Microcomputer Technology (4 crs.)

A study of the electrical families, components and processes used to build the components of microprocessors and microcomputers. An examination of timing cycles for microprocessors with limitations on the digital devices used and the various means in which these components can be assembled in the construction of a microcomputer. Comparison of the various microcomputers available. (Prerequisite: A college-level course in PH or consent of the Instructor) Fall semester

PH 372 Biophysics, Microscopic Aspects (3 crs.)

The structure, function and control of the human body on the microscopic or molecular level. May be taken independently of PH371. (Prerequisite: Consent of the Instructor) Offered alternate years, spring semester

PH 376 Electronic Circuits (4 crs.)

Circuit analysis: Matrix methods, transform methods, amplifiers, feedback theory, operational amplifiers, integrated circuits, analog computers. Three lecture periods and one three-hour laboratory weekly. (Prerequisite: PH 182 or PH 244 or permission of the Department) Offered alternate years, fall semester

PH 381 Thermal Physics (3 crs.)

Thermodynamics; kinetic theory; and statistical mechanics. (Prerequisite: PH 243, PH 244) Offered alternate years, spring semester

PH 385 Optics (3 crs.)

Study of geometrical and physical optics. Three lecture periods weekly. (Prerequisite: PH 244) Fall semester

PH 386 Optical Electronics (3 crs.)

Optical principles throughout the electromagnetic spectrum, sources, displays, light-reactive devices, fiber optics, EPR, NMR. (Prerequisite: PH 392) Spring semester

PH 387 Modern Physics (3 crs.)

Theory of relativity; atomic structure; quantum theory; nuclear physics and elementary particles. (Prerequisite: PH 243, PH 244) Fall semester

PH 388 Electricity and Magnetism (4 crs.)

The theory and applications of the fundamental equations of electromagnetism. Three lecture periods and one three-hour laboratory weekly. (Prerequisite: PH 244) Fall semester

PH 389 Mechanics (3 crs.)

Vector treatment of forces, torques; dynamics of particles and rigid bodies; work and energy; momentum; small oscillation theory; Lagrangian and Hamiltonian formulation of dynamics. (Prerequisite: PH 243) Spring semester

PH 392 Digital Electronics I (4 crs.)

Elements of digital electronics: Boolean algebra of switching circuits, binary logic circuits, digital computer logic circuits. Three lecture periods and one three-hour laboratory weekly. (Prerequisite: College-level course in physics or permission of the Instructor) Fall semester

PH 394 Digital Electronics II (4 crs.)

Counter analysis and design, sequential circuits, digital circuit fault analysis, analog-digital conversion, microprocessors. Three lecture periods and one three-hour laboratory weekly. (Prerequisite: PH 392) Spring semester

*See pages 66-67 for general information regarding course offerings.

PH 398 Solid State Electronics (3 crs.)

The basic principles of operation of the various types of diodes, transistors, SCRs, solar cells, field effect devices, and integrated circuits. *(Prerequisite: PH 192 or PH 244) Spring semester*

PH 402 Quantum Mechanics (3 crs.)

Wave nature of matter; the Schrodinger equation; application of the Schrodinger equation to the electron, the hydrogen atom, multi-electron atoms and radiation. *(Prerequisite: PH 403) Spring semester*

PH 403 Mathematical Physics (3 crs.)

Vector analysis; matrices, linear differential equations; Sturm-Liouville theory; Fourier series; orthogonal functions; Laplace transform. *(Prerequisite: PH 243, PH 244, MA 201) Offered alternate years, fall semester*

PH 405 Nuclear Physics (3 crs.)

Nuclear forces, nuclear models, nuclear reactions and radioactivity, and elementary particles. *(Prerequisite: PH 387) Offered alternate years*

PH 408 Astrophysics (3 crs.)

Stellar atmospheres and interiors; generation and transport of energy; stellar evolution, pulsars, blackholes and quasars; galactic structure; cosmology. *(Prerequisite: PH 387 or permission of the Instructor) Offered alternate years*

PH 409 Theory of Relativity (3 crs.)

The Lorentz Transformation and application to mechanics and electrodynamics; the general Theory of Relativity and application to astrophysics. *(Prerequisite: PH 387) Offered alternate years*

PH 430 Computer Technology (3 crs.)

Discrete parts and gates for computer systems, memories, computer architecture, microprocessors and microprocessor applications, micro-computers. *(Prerequisite: PH 394) Fall semester*

PH 499 Directed Study in Physics (1-3 crs.)

Open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. *(Prerequisite: Consent of the Department) Either semester*

Other Approved Courses:

PH 110 Physics for Nurses
 PH 193 Engineering Physics III
 PH 200 Survey of Physics
 PH 270 Transportation for the Future--Physical Implications
 PH 291 Engineering Mechanics I
 PH 292 Engineering Mechanics II
 PH 301 Physics of Sports
 PH 371 Biophysics, Macroscopic Aspects
 PH 375 Wave Theory
 PH 390 Research Problems in Physics
 PH 391 Solid State Physics
 PH 393 Special Topics in Modern Physics
 PH 399 Experimental Physics
 PH 404 Methods of Mathematical Physics
 PH 410 Electrodynamics
 PH 411 Procedures in Experimental Physics I
 PH 412 Procedures in Experimental Physics II

PH 502 Research (credit to be arranged)

Original research undertaken by the graduate student in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

PH 503 Directed Study (credit to be arranged)

Designed for the graduate student who desires to study selected topics in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

PH 550 Physics for Teachers — A Modern Review (3 crs.)

A modern review of topics in Physics for the junior high teacher. Among the topics to be covered are: Newton's Laws, generation and application of energy, electricity and magnetism, optics, sound, relativity, physics of the electron and nucleus. Emphasis will be placed on recent developments. *(Prerequisite: Science teaching experience at the pre-baccalaureate level and consent of Instructor)*

PH 581 The Physics of the Environment (3 crs.)

The generation and utilization of energy and their environmental impact. Energy sources included are Solar, Wind, Hydroelectric, Nuclear, Geothermal, Fusion. *(Prerequisite: Permission of the Instructor)*

PH 583 Physics of the Atom (3 crs.)

A study of the atomic view of matter and radiation. Topics included are: the kinetic theory of gases, theory of the electron, Bohr's theory of the atom, many electron atoms, theory of molecules and spectra, and the theory of relativity. *(Prerequisite: Permission of the Instructor)*

PH 584 Physics of the Nucleus and Elementary Particles (3 crs.)

A study of the nucleus and relationship of elementary particles. The topics included are: nuclear structure, radioactivity, nuclear reactions, nuclear accelerators, conservation laws, symmetry and invariance principles, unified view of the elementary particles, and cosmic rays. *(Prerequisite: Permission of the Instructor)*

PH 585 Physics of the Solid State (3 crs.)

A unified treatment of the basic models used to describe solid state phenomena. Topics included are: crystal structure, electric, magnetic, and thermal properties of matter, transport properties of metals and semi-conductors; band theory; super conductivity. *(Prerequisite: Permission of the Instructor)*

PH 587 Radiation Physics I (3 crs.)

Wave propagation and the electromagnetic spectrum, interference, polarization, coherence theory, electromagnetic theory. *(Prerequisite: Permission of the Instructor)*

PH 588 Radiation Physics II (3 crs.)

Blackbody radiation, photo-electric effect, the Bohr Model of the Atom and Atomic Spectra, the Schrodinger equation and applications to radiation problems. *(Prerequisite: Permission of the Instructor)*

PH 589 Physics of the Solar System (3 crs.)

Physical properties and motion of the members of the Solar System and interplanetary medium. *(Prerequisite: Permission of the Instructor)*

PH 593 Special Topics in Secondary School Science (3 crs.)

An introduction to the environmental and energy-related physical science topics presented in the Secondary School Science curricula. Special emphasis will be placed upon the science content found in these curricula materials. Lectures, seminars, laboratory work, workshops and model classes will be included in this course. *(Prerequisite: Permission of the Instructor)*

PH 594 Special Topics in Junior High Science I (6 crs.)

An introduction to the Junior High School science programs developed by the Princeton Project and by the Educational Research Council of America. Lectures, laboratory work, model classes, and field trips will be included in this course. (*Prerequisite: Permission of the Instructor*)

PH 595 Special Topics in Junior High Science II (3 crs.)

A continuation of the course PH 594, in which the Princeton Project and the Educational Research Council's Junior High science programs are studied and evaluated.

PH 597 Special Topics in Elementary Science (3 crs.)

An introduction to the elementary science materials developed by the Science Curriculum Improvement Study and others. Special emphasis will be placed upon the study of the science content included in these materials. Lectures, laboratory work, seminars, workshops, and model classes will be included in this course. (*Prerequisite: Permission of the Instructor*)



Department of Political Science

Chairperson: Professor David Sudhalter
Professors: Guy Clifford, Michael Kryzaneck
Assistant Professors: Pauline Harrington, Shaheen Mozaffar

Bachelor of Arts/ Bachelor of Science

The program of study for political science majors (with no concentration) is designed to give students an understanding of the political and governmental structure in their own country and in other parts of the world, and to develop their interest in contemporary public affairs and governmental problems. The political science major aims to provide a foundation for the study of law, for graduate work in political science or public administration with a view toward teaching or government service, and for work in international relations.

The political science major with a concentration in public administration is designed for students who look forward to careers in the public service after graduation, and for those who wish to pursue graduate studies, particularly studies toward a master's degree in public administration.

The political science major with a concentration in international affairs is designed for those students who wish a general background in, and understanding of, this field for purposes of cultural enhancement and/or career orientation, looking towards further study leading to service in the international field as a professional opportunity.

The political science major with a concentration in legal studies is designed for those students wishing to pursue a career in the field of law. The legal studies concentration will help the student prepare for law school or for a paralegal career.

Internship Program

An internship program in Political Science is available to all students, majors and non-majors, who meet the program criteria. It is required of those in the Public Administration concentration; it is an alternative to the Senior Seminar for the International Relations concentration and is a recommended elective for all other majors and minors. A diversity of assignments is available with federal, state or local governments and non-profit organizations. Assignment to the Internship Program is on the basis of application to and subsequent selection by the Internship Supervisor. Application procedures follow College policy (see section on Internships in this catalogue). To be eligible for an internship, a Political Science major or minor must have already completed PO 272 and a 300-level Political Science course and must receive the consent of the Internship Supervisor. Non-Political Science majors and minors must have the approval of their major advisor and the Political Science Internship Supervisor, and must have taken one Political Science course. Interns must have achieved at least junior standing. Credits shall be limited to three unless more are approved by the Political Science Department. It is recommended that those students with an interest in the program confer with the Internship Supervisor as soon as possible in the semester before their proposed internship.

Political Science Major (No Concentration)

PO 172 American Government: The Federal System
PO 275 Comparative Government
PO 277 American Government: State and Local Government
PO 372 Legislative Process and Procedure
PO 373 Political Theory — Ancient and Medieval
PO 374 Political Thought: Modern and Contemporary
PO 375 Political Parties
PO 473 International Law and Organization
Plus 3 additional 300 or 400-level courses
EC 101 Principles of Microeconomics
EC 102 Principles of Macroeconomics
EC 320 Comparative Economic Systems
HI 111-112 History of Western Civilization I-II
HI 221 U.S. History and Constitutions to 1865
HI 222 U.S. History since 1865
HI 314 British Empire and Commonwealth since 1815
One additional history course
A one-year sequence of foreign language study at the intermediate level, or its equivalent.

Public Administration Concentration

PO 172 American Government: The Federal System
PO 277 American Government: State and Local Government
PO 260 International Relations
PO 279 Introduction to Public Administration
PO 372 Legislative Process and Procedure
PO 373 Political Theory — Ancient and Medieval
PO 374 Political Thought: Modern and Contemporary
PO 389 Public Personnel Administration
PO 390 Public Finance
PO 498 Internship in Political Science
One PO 300 or 400 level elective
HI 111-112 History of Western Civilization I-II
HI 221 U.S. History and Constitutions to 1865
HI 222 U.S. History since 1865
HI 314 British Empire and Commonwealth since 1815
AC 240-241 Accounting I-II
CC 130 Human Communication Skills
EN 201 Technical Writing
MA 110 Elementary Statistics I
or
CS 100 Introduction to Computer Science
EC 101 Principles of Microeconomics
EC 102 Principles of Macroeconomics
A one-year sequence of foreign language study at the intermediate level, or its equivalent.

International Affairs Concentration

PO 274 Western Political Thought — Plato to the Present
PO 172 American Government: The Federal System
PO 260 International Relations
PO 275 Comparative Government
PO 279 Introduction to Public Administration
PO 384 U.S. Foreign Policy Since World War II
PO 475 Senior Seminar in Political Science
or
PO 498 Internship in Political Science
Four additional political science courses
HI 111-112 History of Western Civilization I-II
HI 221 U.S. History and Constitutions to 1865
HI 222 U.S. History since 1865
HI 314 British Empire and Commonwealth since 1815
CC 130 Human Communication Skills
EC 101 Principles of Microeconomics
EC 102 Principles of Macroeconomics
EC 320 Comparative Economic Systems
EN 201 Technical Writing
GS 160 Geography of Non-Western Cultures
or
GS 170 Regional Geography: The Developed World
MA 110 Elementary Statistics I
or
CS 100 Introduction to Computer Science
A one-year sequence of foreign language study at the intermediate level, or its equivalent.

Legal Studies Concentration

PO 172 American Government: The Federal System
PO 274 Western Political Thought: Plato to the Present
PO 260 International Relations
PO 275 Comparative Government
PO 279 Introduction to Public Administration
PO 285 Introduction to the Legal System
PO 395 Administrative Law and Regulation
PO 472 American Constitutional Development
PO 473 International Law and Organization
PO 475 Senior Seminar in Political Science
or
PO 498 Internship in Political Science
One PO elective at the 300 or 400 level.

Political Science Minor

PO 274 Western Political Thought — Plato to the Present
PO 172 American Government: The Federal System
PO 277 American Government: State and Local Government
PO 260 International Relations
PO 275 Comparative Government
PO 279 Introduction to Public Administration
One PO 300-level or 400-level elective

Graduate Programs

The Department of Political Science does not offer a program at the master's degree level at this time. Political Science courses may be taken, with faculty advisor approval, in a program leading to the degree of Master of Arts in Teaching with a concentration in the social sciences. Detailed information regarding this degree may be found in the Graduate School section of this catalogue.

The departmental offerings listed below include the following courses which may not be taken for graduate credit:

All courses below the 300 level
PO 498 Internship in Political Science
PO 499 Directed Study in Political Science



Course Offerings*

PO 100 Introduction to Politics (3 crs.)

This course introduces the world of politics with emphasis on a presentation of basic concepts of political organizations, structures and theory balances with current political activity and events. Satisfies the GER in Behavioral and Social Sciences. *Either semester.*

PO 172 American Government: The Federal System (3 crs.)

This general introduction to the American governing system includes an examination of constitutional principles and structures, decision-making institutions, partisan interest groups and electoral politics and the process of public policy formulation and implementation. Formerly PO 272. Satisfies the GER in Behavioral and Social Sciences. *Either semester.*

PO 260 International Relations (3 crs.)

This course introduces modern world politics, with emphasis on change and continuity in the structure and processes governing relations within the international community. Emphasis will be placed on the nation-state, dilemmas facing the global community. Formerly PO 360. Satisfies the GER in Behavioral and Social Sciences. *Either semester.*

PO 273 United States and Massachusetts Constitutions (1 cr.)

Structure of government and rights and responsibilities according to Federal and Commonwealth constitutions. *Either semester*

PO 274 Western Political Thought (3 crs.)

This course covers the principal ideas and philosophies of politics articulated by philosophers and political thinkers since ancient times. The student will be introduced to many of the age-old and puzzling questions of how people can best govern themselves using legal, institutional and behavioral approaches. Formerly PO 271. Satisfies the GER in Behavioral and Social Sciences *Fall semester.*

PO 275 Comparative Government (3 crs.)

Political behavior and government systems in Great Britain, France, the Soviet Union, etc. Formerly PO 371. (Prerequisite: PO 272, PO 277) *Fall semester*

PO 277 American Government: State and Local Government (3 crs.)

State government and politics with emphasis on Massachusetts affairs. (Prerequisite: PO 272 or consent of the Instructor) *Either semester*

PO 279 Introduction to Public Administration (3 crs.)

The relationship of the administrative branch of government to other branches in the making and implementation of public policy; theories of government organization for efficient administration; problems of budgeting, personnel, merit systems, type of agency organization, popular control over the bureaucracy. Formerly PO 379. (Prerequisite: PO 272, PO 277) *Either semester*

PO 285 Introduction to Law (3 crs.)

A non-technical discussion of legal topics, including the relationship of law to social and humanitarian problems; open to majors and non-majors. Formerly PO 387. *Fall semester*

PO 372 Legislative Process and Procedure (3 crs.)

The role of legislatures in modern American government, federal and state; the relationships of the voter and of apportionment to law making; the two-party system and its impact on the law-making process; the committee system and seniority, and constitutional limitations on legislatures. (Prerequisite: PO 272, PO 277) *Spring semester*

PO 374 Political Thought: Modern and Contemporary (3 crs.)

The ideas of major political thinkers in the era of the modern nation-state. (Prerequisite: PO 272) *Spring semester*

PO 375 Political Parties (3 crs.)

The historical development of the American party system, and contemporary aspects of its functioning, at the national, state, and local level. (Prerequisite: PO 272, PO 277) *Offered once in three years, fall semester*

PO 376 Municipal Government (3 crs.)

Study of selected problems of structure, organization, and powers of local government; intergovernmental relationships; administrative and personnel management; special emphasis on local government in Massachusetts. (Prerequisite: PO 272, PO 277) *Offered alternate years, fall semester*

PO 381 United States — Latin American Relations (3 crs.)

The evolution and current status of the political, economic and strategic relationship between the United States and the Latin American nations. (Prerequisite: PO 272, PO 360) *Offered alternate years*

PO 382 Latin American Government and Politics (3 crs.)

A survey of the current governing structures and the general political conditions in the major Latin American nations. (Prerequisite: PO 272, PO 371) *Offered alternate years*

PO 383 Comparative Political Systems (3 crs.)

An advanced investigation and comparison of the primary political institutions and processes found in a number of contemporary national systems. Special emphasis to be placed on the role and status of constitutions, interest groups, political parties, policy-making bodies and other areas. (Prerequisite: PO 272, PO 371) *Offered alternate years*

PO 384 United States Foreign Policy Since World War II (3 crs.)

The study of the goals, policies, structures and procedures that have formed and guided the relations of the United States with other world powers since the conclusion of World War II. (Prerequisite: Junior status and permission of the Instructor) *Offered alternate years, Spring semester*

PO 386 Canadian Government (3 crs.)

The origins and development of the government of Canada from Confederation; the transition from colonial to dominion status; the Statute of Westminster, and independence. Federal government organization, relations with the British Commonwealth. (Prerequisite: PO 272, and PO 371 or permission of the Instructor) *Offered alternate years*

PO 387 Government and Politics of Africa (3 crs.)

An introduction to the organization and processes of African politics centering on the political evolution of contemporary Africa in general but with specific attention to selected nations as appropriate. (Prerequisite: PO 272 and PO 371, or consent of the Instructor) *Offered alternate years, spring semester.*

PO 389 Public Personnel Administration (3 crs.)

Employee relations in the public service; recruitment, testing, compensation, training, classification, and promotions of public servants. (Prerequisite: PO 379 or consent of the Instructor) *Fall semester*

*See pages 66-67 for general information regarding course offerings.

PO 390 Public Finance (3 crs.)

The role of government in a market economy; the role of taxation in a market economy; principles of taxation; problems of budgeting, government expenditure and debt, and economic growth. *(Prerequisite: PO 379 or consent of the Instructor)* Spring semester

PO 395 Administrative Law and Regulation (3 crs.)

The legal and regulatory systems of federal, state and local governments will be analyzed as to their relationship to policy implementation and administration. Emphasis will be placed on charters, ordinances, legislative power and administrative control in areas such as finance, personnel, labor, land use, licensing and education. *(Prerequisite: PO 379 or consent of the Instructor)* Offered alternate years

PO 399 Collective Bargaining in the Public Sector (3 crs.)

An in-depth analysis of the issues behind collective bargaining, the ramifications of contract negotiations and the techniques and tactics which are used by both labor and management. Emphasis on analysis of contracts, legislation and use of negotiation teams. *(Prerequisite: PO 389 or consent of the Instructor)* Offered alternate years

PO 461 Contemporary International Relations (2 or 3 crs.)

Application of the techniques of analysis, simulation and forecasting to international relations situations, problems and current issues. *(Prerequisite: PO 360 or consent of the Instructor)* Offered once in three years

PO 463 Global Politics (3 crs.)

A study of the challenges--forces/actors/issues--which are contributing to change in the existent nation-state system and of the portent for a transformation in the future global community. *(Prerequisite: PO 360 and senior status or consent of the Instructor)* Offered alternate years

PO 472 American Constitutional Development (3 crs.)

Principles and concepts of the U.S. Constitution, as revealed in leading court decisions. Judicial review, federalism, separation of powers, implied powers, due process of law, equal protection, the contract clause, etc. *(Prerequisite: PO 272, PO 277, PO 374)* Offered once in three years

PO 473 International Law and Organization (3 crs.)

The evolution of international law and organization from early beginnings to the United Nations systems; the principles of international law and organization, their integration, and the effect of international politics thereon; the theoretical and practical aspects of the international legal process; the structure, functions and procedures of the United Nations, etc. *(Prerequisite: Permission of the Instructor)* Fall semester

PO 475 Senior Seminar in Political Science (3 crs.)

The undertaking of independent study, and a research project presented in oral and written form. *(Prerequisite: Admission is subject to the consent of the department chairperson and the Instructor)* Either semester

PO 479 Public Policy (3 crs.)

A systematic study of theory and practice in the making and the execution of public policy including the factors of public demand on the political system; decision making in the public sector; tools and techniques for implementation and evaluation; and the import for future planning. *(Prerequisite: PO 379)* Offered alternate years

PO 488 Politics and Development in the Third World (3 crs.)

A survey of the political dynamics of development in the Third World with special emphasis on the dominant theories of development, current critical issues in the Third World, internal and external forces affecting Third World countries and the policy directions taken by developing nations. *(Prerequisite: PO 360 and PO 371 or consent of the Instructor)* Offered alternate years

PO 498 Internship in Political Science (3-15 crs.)

A non-classroom experience intended to complement the academic preparation of a limited number of juniors and seniors majoring in political science. Placements are in areas such as federal, state, city, and town governments and private interest groups. *(Prerequisite: Consent of the department chairperson)* Either semester

PO 499 Directed Study in Political Science (1-3 crs.)

Open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. *(Prerequisite: Consent of the department chairperson)* Either semester

Other Approved Courses:

PO 373 Political Theory--Ancient and Modern

PO 502 Research (credit to be arranged)

Original research undertaken by the graduate student in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

PO 503 Directed Study (credit to be arranged)

Designed for the graduate student who desires to study selected topics in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

PO 510 Graduate Seminar in American Politics (3 crs.)

An in-depth study of current issues, problems and trends in American politics. *(Prerequisite: Substantial background in political science and consent of the Instructor)*

PO 520 Graduate Seminar in International Relations (3 crs.)

An in-depth study of current issues, problems and trends in international relations. *(Prerequisite: Substantial background in political science and consent of the Instructor)*

PO 530 Graduate Seminar in Comparative Politics (3 crs.)

An in-depth study of current issues, problems and trends in comparative politics with special emphasis on the post-industrial state. *(Prerequisite: Substantial background in political science and consent of the Instructor)*

PO 540 Graduate Seminar in Current Topics of Public Administration (3 crs.)

An advanced approach to recent developments in public administration, public policy and human resource management. *(Prerequisite: Substantial background in political science and consent of the Instructor)*

PO 550 Graduate Seminar in Massachusetts State Government (3 crs.)

A detailed survey of the current state of the Commonwealth with particular emphasis on key public policy areas. *(Prerequisite: Substantial background in political science and consent of the Instructor)*

PO 560 Graduate Seminar on the American Presidency (3 crs.)

A detailed examination of the current conditions of the American presidency. *(Prerequisite: Substantial background in political science and consent of the Instructor)*

Department of Psychology

Chairperson: Associate Professor David Richards
Professors: Drake Chisholm, Richard Colgan,
 Herbert Greenwald, Louis Schippers,
 James Scroggs, Susan Todd, Kenneth Wolkon
Associate Professor: Ruth Hannon
Assistant Professor: Margaret Johnson

Undergraduate Program

Bachelor of Arts/Bachelor of Science

The objectives of the Department of Psychology are to 1) provide all students with an understanding of psychology and what psychologists do; 2) give students (where applicable) a background in psychology that will help them do their job better; 3) give our terminal majors sufficient training to enhance their opportunities for vocational placement in psychology-related occupations; 4) give our majors who intend to become professional psychologists sufficient preparation to permit them to be competitive in achieving admission to and success in graduate schools.

Psychology Major

PY 100 Introductory Psychology

PY 224 Child Psychology

or

PY 227 Development Through the Life Cycle

PY 252 Psychology of Learning

PY 310 Social Psychology

PY 360 Psychology of Personality

One course from the following:

PY 318 Experimental Social Psychology

PY 324 Experimental Child Psychology

PY 340 Experimental Psychology: Sensation and Perception

PY 353 Experimental Psychology: Learning and Motivation

In addition, psychology majors must select five elective courses as follows:

Advanced psychological studies (select one of the following courses):

PY 319 History of Psychology

PY 415 Psychological Theory

PY 303 Survey of Psychological Testing

PY 321 Psychology of Human Differences

PY 404 Attitude and Personality Measurement

PY 490 Senior Seminar

PY 350 Special Topics in Psychology

Biobehavioral, cognitive, and social psychological studies (select one of the following courses):

PY 355 Behavioral Modification

PY 356 Learning Theory

PY 339 Human Information Processing

PY 342 Physiological Psychology

PY 344 Drugs and Human Behavior

PY 240 Sensation and Perception

PY 210 Applied Social Psychology

PY 305 Psychology of Personnel Selection

PY 313 Psychology of Organizations

PY 385 Environmental Psychology

PY 474 Forensic Psychology

PY 280 Consumer Psychology

Clinical studies and Practicum and Research (select one of the following courses):

PY 365 Medical Psychology

PY 370 Abnormal Psychology

PY 475 Psychology of Group Behavior

PY 470 Clinical Psychology

PY 369 Psychology of Criminal Behavior

PY 495 Practicum: Medical Psychology

PY 496 Personnel Practicum

PY 492 Seminar: Medical Psychology

PY 497 Research

PY 498 Clinical Practicum

PY 499 Directed Study in Psychology

Plus two additional electives: any psychology course.
Also required:

MA 110 Elementary Statistics I

or

BH 201 Quantitative Methods in the
Behavioral Sciences

BI 100 General Principles of Biology

or

BI 102 Introduction to Zoology

One of the following:

BI 112 Biology and Human Thought

BI 171 Human Anatomy and Physiology I

BI 210 The Biological Environment

BI 272 Animal Behavior

BI 273 Vertebrate Zoology

BI 280 Human Physiology

BI 311 Heredity and Human Endeavor

Psychology Minor

PY 100 Introductory Psychology

Five other psychology courses to fit the needs of the
individual students.

Industrial-Personnel Psychology Concentration

This concentration will provide students with an
understanding of the psychological principles related to
personnel work and the application of these principles to
business and industry.

PY 100 Introductory Psychology

PY 227 Development Through the Life Cycle

PY 252 Psychology of Learning

PY 310 Social Psychology

PY 360 Psychology of Personality

One course from the following:

PY 318 Experimental Social Psychology

PY 324 Experimental Child Psychology

PY 340 Experimental Psychology:

Sensation and Perception

PY 353 Experimental Psychology:

Learning and Motivation

Additional requirements for Industrial-Personnel Psychology
students include:

PY 210 Applied Social Psychology

PY 303 Survey of Psychological Testing

or

PY 404 Attitude and Personality Measurement

PY 305 Psychology of Personnel Selection

PY 313 Psychology of Organizations

PY 321 Psychology of Human Differences

PY 496 Personnel Practicum

MA 110 Elementary Statistics

or

BH 201 Quantitative Methods in the
Behavioral Sciences

BI 100 General Principles of Biology

or

BI 102 Introduction to Zoology

One course from the following:

BI 112 Biology and Human Thought

BI 171 Human Anatomy and Physiology I

BI 210 The Biological Environment

BI 272 Animal Behavior

BI 273 Vertebrate Zoology

BI 311 Heredity and Human Endeavor

EN 201 Technical Writing I

AC 240 Accounting I

or

CS 100 Introduction to Computer Science

SO 350 Sociology of Work

or

SO 332 Sociology of Organization

HI 346 American Labor History

One course from the following:

CC 452 Organizational Communication

EC 101 Principles of Microeconomics

EC 102 Principles of Macroeconomics

Medical Psychology Concentration

This concentration will provide students with an understanding of the psychological principles which delineate and limit a medical model of human health care and the application of those principles, as they are theoretically presupposed derivatives of that model, to clinical medicine and human service areas.

PY 100 Introductory Psychology
PY 227 Development Through the Life Cycle
PY 252 Psychology of Learning
PY 310 Social Psychology
PY 360 Psychology of Personality

One course from the following:

PY 318 Experimental Social Psychology
PY 324 Experimental Child Psychology
PY 340 Experimental Psychology:
Sensation and Perception

or

PY 353 Experimental Psychology: Learning
and Motivation

Additional requirements for Medical Psychology students include:

PY 365 Medical Psychology
PY 342 Physiological Psychology
PY 344 Drugs and Human Behavior

or

PY 355 Behavior Modification
PY 313 Psychology of Organizations
PY 492 Seminar: Medical Psychology
PY 495 Practicum: Medical Psychology
For acceptance into PY 495 Practicum: Medical Psychology, and successful completion of the concentration in Medical Psychology--to be designated on students' transcripts--students must fulfill all concentration course requirements, with a minimum of a B average in Psychology and a C average in the cognates.

MA 110 Elementary Statistics

or

BH 201 Quantitative Methods in the
Behavioral Sciences

BI 100 General Principles of Biology

or

BI 102 Introduction to Zoology

One course from the following:

BI 112 Biology and Human Thought
BI 171 Human Anatomy and Physiology I
BI 210 The Biological Environment
BI 272 Animal Behavior
BI 273 Vertebrate Zoology
BI 280 Human Physiology
BI 311 Heredity and Human Endeavor

EN 201 Technical Writing
PO 277 American Government: State and
Local Government (prerequisite:
PO 272 or consent of Instructor)

or

PO 385 Law for the Layman
AN 330 Medical Anthropology
SO 307 Medical Sociology
PL 205 Medical Ethics: Issues of Life and Death
CH 102 Chemistry in Everyday Life

or

PH 102 Modern Physics for the Humanist
SW 403 Social Services in the Health Care Field

It is strongly recommended that all psychology majors planning further work in psychology at the graduate level take PY 319 History of Psychology and/or PY 415 Psychological Theory. Such students should also elect courses which will develop their computational and writing skills. In addition, some computer literacy is advantageous.

Minor in High School Education

Students minoring in education must refer to the Department of High School, Middle School, and Adult Education for specific teacher certification and program requirements.

Graduate Programs

Master of Arts

The Department of Psychology at Bridgewater State College in conjunction with Southeastern Massachusetts University offers a graduate program leading to the degree of Master of Arts with specializations in: Clinical-Behavioral Analysis (SMU only), Clinical-Psychodynamic Therapy (BSC only), Human Service Administration (SMU only), and Industrial-Personnel (BSC only).

The objectives of the program are threefold: 1) provide students with specific and applied research and problem-solving skills; 2) provide all clinical students with a broad exposure to a variety of modes of therapy; 3) provide students with extensive experiential learning opportunities including practicums, placements and intensive supervision.

Each applicant will be examined in light of his or her own academic record as well as work related experience. All applicants must submit GRE scores including both General and Advanced tests; three letters of recommendation; undergraduate transcript and work related history. One must possess an undergraduate degree in either psychology or a closely related field. Since enrollment is limited, successful candidates should have a minimum of 3.0 GPA as an undergraduate, above average GRE scores and some experience in the field. Final candidates will also receive a personal interview from the Admissions Committee.

Requirements for the Degree

Students must complete a minimum of 40 approved graduate credits. Of these, four (4) credits will include a thesis research project. Before being allowed to pursue thesis work students must pass a formal comprehensive examination. All students will complete a 12-credit academic core, a 12-credit clinical core, 9 credits in the applied specialty and a 4-credit thesis project.

Program Design

The academic core of 12 credits will be identical at both campuses and students will be allowed to begin their studies at either institution. Matriculated students will be expected to take two courses per semester to complete the first year academic core at the same campus before concentrating on their specialty areas. To accommodate students who are currently working, courses will be offered after 4:00 p.m.

Presently, the program is presented as a three-year program. In the second and third year of the program, students will attend the campus offering their selected area of specialization.

Admission into this collaborative program will be made by a joint review committee consisting of psychology faculty from both Bridgewater State College and Southeastern Massachusetts University. Students will identify their preferred area of specialization when they apply to the program. All application materials should be sent to the campus at which students wish to specialize.

Part I Academic Core

PY 501 Proseminar in Psychology I	3 crs.
PY 502 Proseminar in Psychology II	3 crs.
PY 505 Research Methods & Design I	3 crs.
PY 506 Research Methods & Design II	3 crs.

Part II Clinical Core

PY 511 Theories of Psychotherapy	3 crs.
PY 512 Evaluation Techniques	3 crs.
PY 591 Internship I	3 crs.
PY 592 Internship II	3 crs.

Part III Applied Specialty (4 Options)

A. Behavioral Analysis

PY 521 Behavior Modification & Behavior Therapy	3 crs.
PY 522 Behavioral Family & Group Counseling	3 crs.
PY 523 Behavioral Medicine	3 crs.
Elective	3 crs.

B. Human Service Administration

PY 531 Human Services Organization & Administration	3 crs.
PY 532 Human Resources & Human Factors	3 crs.
PY 533 Management of Funds in Human Services	3 crs.
PY Elective	3 crs.

C. Psychodynamic Therapy

PY 541 Contemporary Psychoanalytic Theory	3 crs.
PY 542 Psychodynamic Psychotherapy	3 crs.
PY 543 Psychodynamic Marital & Family Therapy	3 crs.
PY Elective	3 crs.

D. Industrial-Personnel

PY 551 Advanced Seminar in Personnel	3 crs.
PY 552 Employee Evaluation Techniques	3 crs.
PY 553 Theories & Research in Motivation	3 crs.
PY Elective	3 crs.
PY 599 Master's Thesis	4 crs.

The departmental offerings listed below include the following courses which may not be taken for graduate credit:

All courses below the 300 level

PY 497 Research
PY 498 Clinical Practicum
PY 499 Directed Study in Psychology

Course Offerings*

PY 100 Introductory Psychology (3 crs.)

This is a survey of the different processes such as perception, sensation, learning, emotion, with a discussion of the underlying physiological processes as well as an introduction to the more complex areas such as personality development, psychopathology, social influences, and testing. Methods of investigation and research will be integrated with the above topics. Satisfies the GER in Behavioral Sciences and Social Sciences (Behavioral Science). Either semester

PY 101 Foundations of Psychology (3 crs.)

This course is specifically designed to introduce and familiarize students with the methods and theory of representative thinkers in the major areas of contemporary psychology. Considerations of these thinkers will be examined through their original works as they contribute to current psychological thought and research. Open to all students; recommended for Psychology majors. Either semester

PY 200 Non-Western Theories of Personality (3 crs.)

This course examines conceptions of personality as they have appeared in non-Western traditions. Differences in focus, methodology and views of the nature of the self are investigated as they relate to cultural world-views such as Yoga, Zen Buddhism and Sufism. (Prerequisite: PY 100) Satisfies the GER in Non-Western Civilization. Spring semester

PY 210 Applied Social Psychology (3 crs.)

Effective communication and better understanding of oneself; listening, persuasion, conflict resolution, goals, expectations, and self-confidence. Contemporary problems such as dissent and minority problems. Guest speakers when possible. (Prerequisite: PY 100 or PY 101) Offered alternate years

PY 224 Child Psychology (3 crs.)

An investigation of the growth and development of the child from conception to pre-adolescence will include both the influence of heredity and other biological factors as well as the social influences of child rearing practices, family value systems, and peer culture effects. Topics will include the development of verbal ability, conscience and moral judgment, personality and self concept. Current theories and research findings will be discussed in relation to the above topics. (Prerequisite: PY 100 or PY 101) Either semester

PY 226 Adolescent Psychology (3 crs.)

An investigation of the growth and development of the pre-adolescent and adolescent including both physical as well as psychological changes relating to intellectual, moral, emotional, personality, and social aspects. Current theories and research findings will be discussed in relation to the above topics. (Prerequisite: PY 100) Either semester

PY 227 Development Through the Life Cycle (3 crs.)

This course offers a survey of the life cycle and an integrated approach to understanding the individual and developmental processes. The developmental tasks of infancy, childhood, adolescence, adulthood are viewed from a life span perspective, with emphasis on continuity and change. (Prerequisite: PY 100) Offered alternate years, Spring semester

PY 240 Sensation and Perception (3 crs.)

The auditory, visual, gustatory, olfactory, and cutaneous senses will be studied by presenting the basic data with their implications concerning functioning of these systems. The methods for collecting data and the theory concerning such phenomena as perception of movement, time, space, form, pattern, and attention will be presented. (Prerequisite: PY 100) Offered alternate years, spring semester

PY 252 Psychology of Learning (3 crs.)

The shaping of behavior, laboratory conditioning, reinforcement, approach and avoidance of a goal, discrimination and generalization of physical cues, animal learning experiments. Experimental approaches to the study of human behavior. (Prerequisite: PY 100) Either semester

PY 280 Consumer Psychology (3 crs.)

An investigation of the psychological techniques being used in advertising and merchandising. Emphasis will be on the psychological aspects of consumer purchasing practice with respect to motivation, attitudes, learning, and perception. (Prerequisite: PY 100) Either semester

PY 303 Survey of Psychological Testing (3 crs.)

An introduction to the theory of psychological measurement and test development including item indices, speededness, reliability, and validity with a survey of various psychological instruments used in assessment, personal selection, and psychological research. (Prerequisite: MA 110 or BH 201) Fall semester

PY 305 Psychology of Personnel Selection (3 crs.)

The psychology of interviewing, testing and data analysis as it is employed for the effective placement of personnel in business, industry, and other organizations. Includes: criterion selection, job analysis, outcome prediction and validation, and a psychological perspective of jobs and job function. (Prerequisite: PY 100) Fall semester

PY 310 Social Psychology (3 crs.)

The individual in social situations: attitude formation and change, culture and society, language and communication, leadership and group dynamics, personality characteristics and interpersonal relationships, small group behavior. (Prerequisite: PY 100) Either semester

PY 313 Psychology of Organizations (3 crs.)

Theories and research, organizational objectives, systems analyses and efficiency planning, quantity and quality of productivity, morale, leadership, personnel selection, career development, committee effectiveness, evaluation research and use of other feedback techniques to improve functioning. Term project: analysis of an existing organization, with recommendations. (Prerequisite: PY 100) Spring semester

PY 318 Experimental Social Psychology (3 crs.)

Recent research including developments in methodology, theory, and research findings. Situational approaches and individual differences useful in testing theories and hypotheses in resolving conflicting findings of previous research. Research project required of the student. (Prerequisite: PY 310 and MA 110 or BH 201) Offered alternate years

PY 319 History of Psychology (3 crs.)

A study of the early recognition and historical trends in the study of psychology from the early Greeks through the Renaissance to the 19th and early 20th century schools of thought. Eminent psychologists and their contributions will be integrated with the historical perspective. At least 12 hours of psychology or permission of the Instructor) Fall semester

PY 321 Psychology of Human Differences (3 crs.)

An introduction to the *ex post facto* method of research and its applications to the investigation of individuals and group differences in normal behavior. The relationship of aptitudes, personality, perception, values, etc., to age, birth order, gender, socio-economic class and race will be studied. Topics range from the origin, development and measurement of individual differences, to their applications in counseling, education, industry, and social work. Opportunity will be given for the student to learn about his or her individual differences. (Prerequisite: PY 100, BI 102 or equivalent) Offered alternate years, spring semester

*See pages 66-67 for general information regarding course offerings.

PY 324 Experimental Child Psychology (3 crs.)

Students will plan and conduct experiments related to childhood in some of the following areas: motor learning, perception, language acquisition, cognition, and personality development. Proper psychological experimental design will be emphasized. (Prerequisite: PY 224 and MA 110 or BH 201) Offered alternate years

PY 327 Psychology of Exceptional Children (3 crs.)

This course will deal with the identification and understanding of children with special needs. Special techniques appropriate to helping these children will be treated. Emphasis will be placed on the psychological problems of the learning disabled, mentally, emotionally, and physically handicapped children as well as those of the academically gifted or creative child. (Prerequisite: PY 224 or PY 226 or permission of the Instructor) Spring semester

PY 328 Psychology of Mental Retardation (3 crs.)

Origins (genetic, organic, sensory, maternal, and cultural deprivation), manifestations, diagnostic aids, therapeutic and remedial techniques. (Prerequisite: PY 224 or consent of the Instructor) Offered alternate years, Fall semester

PY 329 Psychology of Aging (3 crs.)

A study of the sensory, cognitive and social changes resulting from old age including changes in learning, personality, and pathology. Problems of adjustment will be discussed and integrated with research findings in gerontology. (Prerequisite: PY 100) Offered alternate years, Spring semester

PY 339 Human Information Processing (3 crs.)

The psychology of thinking including historical and philosophical issues; process models, information theory, cybernetic, general systems and field theory approaches, visual and auditory cognition, psycholinguistics, memory and attention, problem solving and concept formation, with implications for mental retardation and learning disabilities. (Prerequisite: At least 12 hours in psychology or permission of the Instructor) Offered alternate years, Spring semester

PY 340 Experimental Psychology: Sensation and Perception (3 crs.)

Practical experience in laboratory approach to sensation and perception, including design, methodology, and technology. Emphasis is on evaluating and interpreting the practical and theoretical implications of experimental findings for our understanding of human perceptual and thought processes. (Prerequisite: PY 100 or PY 101, PY 240, MA 110 or BH 201) Offered alternate years

PY 342 Physiological Psychology (3 crs.)

A general survey of the neural bases of behavior and current issues of physiological psychology. Topics include: instinctive behavior, biopsychological investigation of learning and motivation. (Prerequisite: BI 102 or equivalent and PY 100) Offered alternate years, Fall semester

PY 344 Drugs and Human Behavior (3 crs.)

An exploration of psychoactive drugs and the way in which they are used in psychology today. Each drug will be studied in terms of the psychological, psychophysiological and behavioral theories of drug effects. (Prerequisite: PY 100) Offered alternate years, Fall semester

PY 350 Special Topics in Psychology (3 crs.)

Various and special topics of current interest in psychology will be offered from time to time. Topics will be announced before pre-registration. May be taken more than once but only three credits will be counted towards the first 33 hours in the Psychology major. (Prerequisite: At least nine hours in psychology or permission of the Instructor) Either semester

PY 353 Experimental Psychology: Learning and Motivation (3 crs.)

Practical experience in laboratory approach to the study of behavior with considerable freedom for the student to design his own experiments. Mainly oriented toward issues in learning and motivation: classical and operant conditioning, generalization and discrimination, extinction and transfer, goal-approach and avoidance, effect of drive on performance. (Prerequisite: PY 100, PY 252, MA 110 or BH 201) Offered alternate years, Spring semester

PY 355 Behavior Modification (3 crs.)

Survey of theoretical positions with research, education, clinical and correctional application of a broad spectrum of behavioral principles to the treatment, modification, amelioration, and prevention of behavior and/or learning problems. Although the primary emphasis will be on tactical considerations, the ethical aspects of such techniques will be discussed. (Prerequisite: PY 100) Either semester

PY 360 Psychology of Personality (3 crs.)

Basic concepts in the field of personality, organized around such topics as motivation, personality structure and dynamics, personality development, assessment, and therapy. Problems and styles of adjustments will be considered. (Prerequisite: PY 100) Either semester

PY 365 Medical Psychology (3 crs.)

The application of psychological principles and concepts as they relate to psychological and behavioral problems and conditions related to illness, thus complementing and integrating existing biochemical knowledge of disease with psychological and behavioral techniques that will enhance understanding of health and illness. (Prerequisite: Minimum of nine hours in Psychology) Fall semester

PY 369 Psychology of Criminal Behavior (3 crs.)

Definition of criminal behavior and the psychodynamics involved in its causality such as: child rearing practices, personality development, attitude formation, etc. The psychological aspects of punitive vs. rehabilitative incarceration, psychological intervention techniques including behavior modification, psychotherapy and psychodrama, will also be covered. An integration of theory with research findings will be maintained. (Prerequisite: PY 100) Fall semester

PY 370 Abnormal Psychology (3 crs.)

A systematic study of behavior pathology. Symptom patterns, etiology, prognosis, and prevention. Understanding and care of mental illness. (Prerequisite: PY 100) Either semester

PY 385 Environmental Psychology (3 crs.)

Examines the interplay between the psychological aspects of man and his physical environment. Topics will include privacy, personal space, territorial behavior, crowding, urban living, as well as the interactions between the physical environment and a variety of social, cognitive, and perceptual behaviors. (Prerequisite: PY 100) Offered alternate years

PY 404 Attitude and Personality Measurement (3 crs.)

Principles of construction of attitude scales and personality assessment techniques, including both projective and inventory-type techniques. Issues and controversies in psychological measurement. (Prerequisite: PY 360, PY 310, and MA 110 or BH 201) Offered alternate years, Spring semester

PY 415 Psychological Theory (3 crs.)

Fundamental assumptions underlying the psychological enterprise, and issues which are the subjects of continuing debate in the field - e.g. causality, determinism, methodological approaches, the control of behavior, conceptions of the nature of man. (Prerequisite: At least 12 hours in psychology) Offered once in three years

PY 470 Clinical Psychology (3 crs.)

Survey of diagnostic and treatment procedures and resources in clinical work with children and adults; professional skills and responsibilities of the clinical psychologist. (Prerequisite: PY 360 and PY 370) Fall semester

PY 474 Forensic Psychology (3 crs.)

A study of basic underlying assumptions of personality theory such as intentionality, nature/nurture and the knowability of man as these issues pertain to motive and bias as they manifest themselves in a judicial system. (Prerequisites: PY 360, PY 370) Offered once in three years

PY 475 Psychology of Group Behavior (3 crs.)

Group theory, theories of group psychotherapy, leadership and facilitation, group process; plus laboratory experience in interpersonal relations designed to develop skills useful in human services applications. Open only to senior psychology majors with consent of the department. Offered alternate years, spring semester

PY 490 Senior Seminar (3 crs.)

Topical areas of psychology will be offered to allow seniors an opportunity to make individual presentations and critique each other through discussion. Topics will be announced in advance. May be taken twice, but only three credits will be credited toward the first 30 hours for psychology majors. (Prerequisite: 18 hours in psychology or consent of the Instructor) Either semester

PY 492 Seminar: Medical Psychology (3 crs.)

Examination of issues and problems in Medical Psychology. (Prerequisite: PY 365 and consent of the Department) Spring semester

PY 495 Practicum: Medical Psychology (3-15 crs.)

Open to seniors in Medical Psychology Concentration, providing first-hand experience in the application of psychological and behavioral principles in the area of medical psychology. (Prerequisite: Consent of the Department) Spring semester

PY 496 Personnel Practicum* (3-15 crs.)

Direct application of psychological principles to actual personnel issues and problems in an organization such as business, industry, government, etc. Open only to seniors who wish to gain first-hand experience. (Prerequisite: Consent of the Department) Either semester

PY 497 Research* (1-3 crs.)

Individual or group research project. Primarily for senior majors in psychology; others by special arrangement. May be taken twice for maximum of six credits. (Prerequisite: Consent of the Department) Either semester

PY 498 Clinical Practicum* (3-15 crs.)

Open to seniors who wish to have the opportunity to gain first-hand experience in applying psychology in a clinical setting. (Prerequisite: Consent of the Department) Either semester

PY 499 Directed Study in Psychology* (1-3 crs.)

Open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. (Prerequisite: Consent of the Department) Either semester

**PY 501-502 Pro-Seminar in Psychology I-II
(3 crs. for each semester)**

Pro-seminar will provide a comprehensive foundation for the study of psychology. The course structure will maximize scope and current thinking in each of six cognate areas. Each five-week segment will review current research, theory, application and conceptual structure within a major area of psychology. Considerable attention will be placed on the interface between research and practice.

PY 503 Directed Study (credit to be arranged)

Designed for the graduate student who desires to study selected topics in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

PY 504 Research (credit to be arranged)

Original research undertaken by the graduate student in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue. (Formerly PY 502)

**PY 505-506 Research Methods and Design I-II
(3 crs. for each semester)**

This course includes two semesters of integrated statistical procedures and research design skills. Special emphasis will be placed on methodological issues that are likely to confront the graduate in applied settings. In addition to covering traditional statistical and design concepts, special applied research tools such as survey methodology, program evaluation "small-N" designs, nonparametric and multivariate models will be presented. The course will be very closely tied to the use of commonly available statistical packages such as SPSS, BMD, ALICE, and STP. The course will reflect a strong experiential component including data collection, analysis and interpretation.

PY 508 Advanced Seminar (3 crs.)

Various and special topics of current relevance in psychology, to be dealt with in depth, will be offered from time to time. Topics will be announced before pre-registration. May be taken more than once but only three credits will be counted towards the graduate program. (Prerequisite: Consent of the Instructor)

PY 511 Theories of Psychotherapy (3 crs.)

The major counseling theories are explored in an academic and experiential format. Role playing and videotaping of the theories are common modalities. A sampling of the theories discussed are: Reality Therapy, Behavior Therapy, Rational Emotive Therapy, Gestalt Therapy, Transactional Analysis, Client Centered Therapy and the Psychoanalytic Model. (Formerly PY 570)

PY 512 Evaluation Techniques (3 crs.)

The course will begin with traditional components of psychological testing, including test construction, test development, test administration and test interpretation. Specific training will be placed on frequently administered clinical tests (e.g., MMPI, WAIS, and WISC). Beyond traditional test theory, students will be exposed to contemporary evaluation devices including behavioral assessment, interview data and naturalistic observation. (Formerly PY 573)

PY 514 Attitude Change Research (3 crs.)

Empirical research in persuasion; communicator credibility, opinion difference, commitment, one-sided (pro) and two-sided (pro and con) arguments, coercion, threat, emotional and rational arguments. Theories of attitude change, including dissonance theory, balance theory, congruity theory, and assimilation and contrast theory. Formerly PY 512 (Prerequisite: PY 310, MA 110 or BH 201 or equivalents; consent of the Instructor)

PY 515 Controversies in Social Psychology (3 crs.)

In this seminar, students, working in teams, will present a summary of the research and theoretical literature related to a particular topic in social psychology. The presentation will include research evidence and theories supporting opposing viewpoints. Also included in the presentation will be students' own conclusions based on the weight of the evidence and a suggestion for a specific research study that could help clarify the problem. (Prerequisite: PY 310 Social Psychology or its equivalent)

*No more than six hours of any combination PY 497, PY 498 or PY 499 may be counted towards the first 33 hours in the psychology requirements for a major.

PY 520 Theories of Development (3 crs.)

Contrast and compare the major models of development: cognitive-structural, psychoanalytic, and behaviorist, with special emphasis on their a priori assumptions and research strategies. Works of Piaget, Werner, Freud, Erikson, Skinner, Spence, and others will be examined. (*Prerequisite: PY 224, PY 360 or equivalent; consent of the Instructor*)

PY 521 Behavioral Modification and Behavior Therapy (3 crs.)

A foundation course introducing the basic principles of learning as the theoretical underpinnings of contemporary applied behavioral psychology. Behavior change techniques derived from learning theory widely used in clinical, educational, recreational family settings will be examined, and individual and group applications compared and contrasted.

PY 522 Behavioral Family and Group Counseling (3 crs.)

This course will provide a detailed analysis of the function and structure of the family unit. The academic component includes topics like behavioral limit setting, family systems, behavioral contracting, networking, family sculpting, power, control, setting behavioral goals, the double bind, the identified patients, groups as a system, and the structuralist approach. The experiential component involves the intergenerational family tree, role playing, diagnosis and evaluation of actual families.

PY 525 Cognitive Development (3 crs.)

The development of the cognitive processes, including perception, language, intelligence, and memory. Throughout the life cycle the major focus will be on the growth of basic systems and strategies for representing information symbolically. The work of cognitive theories such as Berlyne, Bruner, and Piaget will be considered. (*Prerequisite: PY 224 or equivalent; consent of the Instructor*)

PY 526 Childhood Psychopathology (3 crs.)

The nature, etiology, consequences and prevention of the major emotional disorders of children, considered from a developmental viewpoint. Areas include emotional problems of normal children as well as serious psychopathology. Primary emphasis is on psychological factors responsible for deviance. Some attention to organic and constitutional factors. (*Prerequisite: PY 224, PY 327 or equivalents*)

PY 528 Seminar in Clinical Child Psychology (3 crs.)

Examination of theoretical foundations and principle techniques used in the assessment and treatment of psychological problems of children. Emphasis will be placed on the unique needs of children in assessment and treatment. (*Prerequisite: PY 224 and PY 327 or PY 526*)

PY 531 Human Service Organization and Administration (3 crs.)

An introduction to the structure of human services delivery systems from both public and private systematic perspectives. Issues of scope, function, legitimacy, accountability and service effectiveness will be explored. Interrelationships among funding, planning and service-impact variables will be examined, and the role of the Human Services Administrator as Advocate and Change Agent considered.

PY 532 Human Resources and Human Factors (3 crs.)

Human resources and human factors as an introduction to the management facets of a human services agency. Effective clinical and managerial supervision strategies are presented along with methods of personnel and program evaluation. Good clinicians are not always good supervisors or administrators; therefore, this course is designed to acquaint clinically-oriented psychologists with the fundamentals of personnel management. Also included are standards for affirmative action, employee welfare, fringe benefits, work conditions, staff consultation, and personnel policies.

PY 533 Management of Funds in Human Services (3 crs.)

Management of Funds in Human Services is an introduction to fiscal accountability, standards and practices for non-profit agencies both governmental and private. Financial responsibilities and accounting systems are presented for the supervisor/manager of non-profit organization. Course topics include: development of an operating budget, payroll system basics, account ledgers, financial statements and audit procedures, IRS requirements, purchasing/cash disbursement systems, revenue/cash receipts systems, and annual governmental reports (Forms PC, RSC-600). This course provides the basics for the Human Services Administrator to monitor and understand the business system side of his/her agency's work.

PY 540 Cognitive-Perceptual Psychology (3 crs.)

An in-depth examination and review of the scientific literature concerned with cognitive-perceptual issues, principles, and theories, integrating perception, learning, memory, language, and thinking. Materials will be evaluated with pragmatic regard to experimental, medical, clinical, and educational settings. (*Prerequisite: PY 240, PY 252 or equivalent, or consent of the Instructor*)

PY 541 Contemporary Psychoanalytic Theory (3 crs.)

The course is an examination of several of the current psychoanalytic approaches in the treatment of mental illness. Included in the course will be the work of the Object Relations Theorists (English school); those working with borderline conditions such as Masterson, Kohut et. al. and the work of Mahler and other researchers of early psychological experiences. Students who have completed PY 577 may not receive credit for this course.

PY 542 Psychodynamic Psychotherapy (3 crs.)

A detailed examination of the application of psychoanalytic theory to the psychotherapeutic setting. The role of interpretation, transference and countertransference, the working alliance and other aspects of the therapeutic relationship will be presented. (Formerly PY 578)

PY 543 Psychodynamic Marital and Family Therapy (3 crs.)

The application of psychoanalytic theory to marital, family and group systems. The examination of interpersonal relationships which are maladaptive and the change strategies and modalities utilized by the therapist. Students who have completed PY 574 may not receive credit for this course.

PY 551 Advanced Seminar in Personnel (3 crs.)

This course will cover a variety of topics that are important to personnel management and counseling. These topics will include personnel policy formulation and implementation, the use of testing in the industrial setting, the purpose and structure of the interview, the development and implementation of employee assistance programs, etc. Student presentations and/or term papers will be required.

PY 552 Employee Evaluation Techniques (3 crs.)

This course will survey current techniques used in evaluating the training and performance of employees. Appraisal techniques such as employee rating scales, interpersonal ranking methods, and management by objectives will be discussed with particular emphasis on the motivation of employees.

PY 553 Theories and Research in the Psychology of Motivation (3 crs.)

This course examines a critical problem in personnel management today: namely, how to develop and sustain a high level of motivation among workers. The problem is explored in detail through analysis of psychological theories of motivation and through review of recent research in industrial psychology.

PY 572 Community Psychology and Mental Health (3 crs.)

Examination of principles, literature, and practices of community mental health work and preventive psychiatry. Therapeutic methods in individual, couple, family and group work considered as well as the role of consultation and the community mental health center. (*Prerequisites: PY 360 and PY 370*)

PY 575 Neuroses and Personality Disorders (3 crs.)

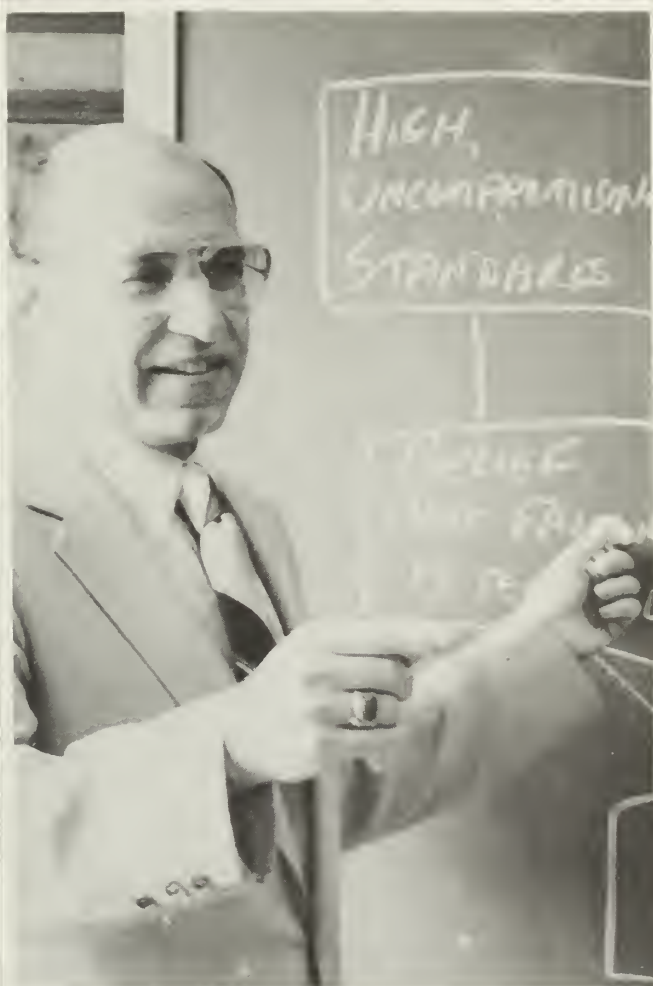
Students preparing for work in mental health settings need in-depth knowledge about this clientele with which they will work. This course goes beyond PY 370 Abnormal Psychology by focusing on one aspect of abnormality. (*Prerequisite: PY 370 or equivalent*)

PY 576 The Psychoses (3 crs.)

Students preparing for work in mental health settings need in-depth knowledge about this clientele with which they will work. This course goes beyond PY 370 Abnormal Psychology by focusing on one aspect of abnormality. (*Prerequisite: PY 370 or equivalent*)

PY 591-592 Internship (3 crs. each semester)

The internship will allow students to apply the skills acquired through classroom work. Students will be placed in mental health agencies or personnel offices and will receive extensive supervision.



Department of Social Work

Chairperson: Assistant Professor Aida M. Bruns
Professor: Betty Reid Mandell
Associate Professors: Dorothy Howard, Rebecca Leavitt

Undergraduate Programs

Bachelor of Arts/Bachelor of Science

The objective of the social work major is to prepare undergraduate students for beginning professional positions in the field of social work and other human service fields. The program will also prepare students for professional training in social work at the graduate level.

Behavioral theory derived from courses in anthropology, psychology, and sociology undergird the instruction provided in the social work courses. The program includes a field experience in social agencies, where students perform field-work assignments. A field work seminar is taken concurrently with the field experience.

Preparation for the senior year Field Experience, SW 498, is accomplished through a series of structured exercises attached to courses. SW 250 Introduction to Social Welfare, may require a 2-4 hour laboratory experience for a semester; SW 311 Social Work Practice: Theory and Method, requires 60 hours of field work volunteer experience for one semester. These experiences are designed to assist the faculty and the student in the selection of an appropriate senior field experience.

The following criteria have been established as minimum prerequisites for admission and retention in the senior field experience course, SW 498:

1. Documentation that the student has achieved a grade of "C" or better in English Composition. If the student is required by college regulations to take English Composition II, a "C" or better must be achieved in the latter course;

2. Documentation that, by the first semester of the junior year, a student is maintaining a QPA of 2.2 or better;
3. Documentation that no more than one "Incomplete" grade will be carried into the senior year (that is, during the year-long field internship) unless satisfactory medical certification supporting the need for same is provided. In no situation will a student be allowed to carry more than two such "Incomplete" grades into the senior year;
4. Agreement by a majority of the department that the student gives behavioral evidence of the maturity and mental stability necessary to satisfactorily perform the role of professional social worker.

Social Work Major

SO 102 Introduction to Sociology

SW 327 Social Work Practice with Women, Minorities,
and the Poor

or

AN/SO 315 Ethnic Experience in America

SO 402 Seminar: Research Methods in Sociology

SW 250 Introduction to Social Welfare

SW 300 Social Welfare Policy

SW 310 Human Behavior and Social Environment

SW 311 Social Work Practice: Theory and Method

SW 314 Social Work Practice with Individuals

SW 324 Social Work Practice with Groups

SW 325 Social Work Practice in
Community Organizations

SW 409 Field Work Seminar I

SW 410 Field Work Seminar II

SW 498 Field Experience in Social Work

MA 110 Elementary Statistics

or

BH 201 Quantitative Methods in the
Behavioral Sciences

PY 100 Introductory Psychology

One additional psychology course

One semester in a human biology.

An intermediate-level proficiency in a foreign language,
ordinarily Spanish or Portuguese, is required.

Graduate Program

The Department of Social Work does not offer a program at the master's degree level. Social Work courses, except SW 250 Introduction to Social Welfare and SW 499 Directed Study in Social Work, may be taken for graduate credit in order to meet elective requirements in other graduate programs with faculty advisor's approval.



Course Offerings*

None of these courses may be used to satisfy general education requirements.

SW 250 Introduction to Social Welfare (3 crs.)

Analysis of the conceptions of social welfare. The historical development and function of social welfare and the value systems underlying the political, economic and social response to human needs. An overview of the roles of the social worker and the varied settings in which interventions are employed. *Either semester*

SW 300 Social Welfare Policy (3 crs.)

This course follows the development of social welfare institutions and the societal response to human service needs. There is discussion of poverty and its effects on minority groups with special emphasis on Afro-Americans, Spanish-speaking, women and the aged. Students are helped to analyze social policy. *(Prerequisite: SW 250 or consent of the Instructor) Either semester*

SW/HE 303 Interdisciplinary Approaches to the Delivery of Health Services (3 crs.)

A wide range of interdisciplinary health team approaches will be analyzed. The field component is observational and will provide insight into the pragmatic realities of a health team. This course will be a first exposure to the theoretical and experiential dynamics of interdisciplinary approaches to delivery of health services. Disciplines involved include social work, health, psychology, nursing and medicine. *(Prerequisite: 6 credits in Health and Social Work or Health-related areas) Offered once in three years.*

SW 305 Child Welfare (3 crs.)

A comprehensive study of the principal child welfare services, the course will concentrate on the human service practitioner's role as a helping agent in the delivery of services. The impact of child welfare on areas of education, sociology, psychology, health and mental health will include aspects of these disciplines as they relate to enhancing the welfare of the child. Learners will make site visits to child welfare agencies and interview professionals providing services to children. *(Prerequisite: SW 250 or consent of the Instructor) Either semester*

SW 310 Human Behavior and Social Environment (3 crs.)

An examination of the biological, psychological, and social development of the individual throughout his life span, and the relation of these factors to the individual's functioning in his environment. Special emphasis on the implications for social work practice. *(Prerequisite: SW 250 or consent of the Instructor) Either semester*

SW 311 Social Work Practice: Theory and Method (3 crs.)

A descriptive overview of the field of social work practice. The following topics will be approached from a generic standpoint: concepts and techniques in practice, with individuals, groups and communities, interviewing, roles of workers and clients, social process, problem solving and skill development. Emphasis on role-play as a learning aid. A 60-hour field experience in a social agency is a course requisite. *(Prerequisite: SW 250, and SW 300 or 310, or consent of the Instructor) Either semester*

SW 314 Social Work Practice with Individuals and Families (3 crs.)

The course will integrate knowledge of assessment skills and intervention approaches that will enable individuals and their families to deal more effectively with various internal and social pressures in their life situations. A solid foundation for relationship building and interviewing skills will be provided. *(Prerequisite: SW 311) Either semester*

SW 324 Social Work Practice with Groups (3 crs.)

Basic concepts, principles, techniques, and approaches used in offering services to groups. A variety of agencies providing group service will also be examined. Role play will be employed as a learning aid. *(Prerequisite: SW 311) Either semester*

SW 325 Social Work Practice in Community Organizations (3 crs.)

Presentation and discussion of concepts, principles, methods and techniques of providing human services and upgrading neighborhoods and communities. *(Prerequisite: SW 311) Either semester*

SW 327 Social Work Practice with Women, Minorities, and the Poor (3 crs.)

The study of the special knowledge and sensitivity necessary for social workers in serving women, minorities, and the poor. Social work practice, social policy and social services will be examined in relation to class gender and ethnicity. *(Prerequisite: SW 250) Either semester*

SW 333 Social Work with the Aging (3 crs.)

The course affords the student an understanding of what it means--socially, psychologically and physically--to be aging in our society. Theories and methods of problem-solving with the elderly are examined. The elderly's income, health, housing, social service and other needs are identified and analyzed as are the policies and programs to address these needs. *(Prerequisite: 6 credits in Behavioral Sciences or Health) Either semester*

SW 399 Special Topics in Social Work (3 crs.)

Various topics in Social Work will be offered from time to time. Topics will be announced prior to registration. May be taken more than once. *(Prerequisite: 9 hours in Behavioral Sciences) Either semester*

SW 403 Social Services in the Health Care Field (3 crs.)

The course will provide an historical overview of medical social work with emphasis upon the psychological and social aspect of medical care. A variety of health care settings will be analyzed in terms of social work role, treatment approaches, resource finding and interdisciplinary work. Students will be given an understanding of how both acute and chronic illness affect the patient, family and community with emphasis upon such variables as age, sex, ethnicity, and duration and nature of condition. *(Prerequisite: At least 6 hours at 300, 400 level Behavioral Sciences or Health. Open to declared majors in Behavioral Sciences or Health) Fall semester*

SW 409-410 Field Work Seminar I-II (3 crs. for each semester)

In conjunction with a supervised field experience in a community agency, this seminar will provide an integration of social work theory garnered from previous courses with practice issues arising from the field internship. The diversity of social work settings and roles will be shared along with specified content and guest speakers from various areas of practice. *(Prerequisite: Social Work Majors only) SW 409 fall semester, SW 410 spring semester*

*See pages 66-67 for general information regarding course offerings.

SW 415 Social Services in Alcohol and Substance Abuse (3 crs.)

The course provides an overview of the problem of alcoholism, and the various programs that deal with the problem. It has been designed primarily for students who have an interest in the area of alcoholism and substance abuse and either may be considering a career in treatment for alcoholism or may merely wish to expand their area of competence. The course focuses on the central issues of causation, resources, management and treatment from a social work perspective. Students need to understand how the various programs and human service systems are planned, organized and evaluated. Students are introduced to theory and practice in relation to the functions that form the basis of various programs and services. Agency visits will be made. *(Prerequisite: SW 250) Either semester*

**SW 498 Field Experience in Social Work
(4 crs. for each semester)**

Taken concurrently with SW 409 and SW 410, Field Work Seminar I-II, during the senior year, these practice aspects of the social work curriculum help students to learn to integrate social work theory and practice into a unified whole as a part of their development toward professional practice. The field experience provides opportunities for students to learn how to apply knowledge and to develop skills in providing direct services to clients in a wide variety of community agencies, under the direction of a qualified agency field instructor. A total of 400 clock hours in the field is required to be fulfilled from September-May of the senior year. *(Prerequisites: Social Work Majors only and SW 310, SW 311) Either semester*

SW 499 Directed Study in Social Work (1-3 crs.)

Open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. *(Prerequisite: Consent of the Department) Either semester*



Department of Sociology and Anthropology

Chairperson: Associate Professor Curtiss Hoffman
Sociology Faculty

Professors: William Levin, Abraham Thomas
Associate Professors: Donald Armfield, Howard London,
Nancy Meymand

Assistant Professors: Walter Carroll, Richard Henry

Anthropology Faculty

Assistant Professors: Sandra Faiman-Silva, Reed Stewart

Undergraduate Programs

Anthropology

Bachelor of Arts/Bachelor of Science

A major in Anthropology provides students with an understanding of societies and cultures throughout the world. Specifically: 1) A major prepares students for teaching careers in either elementary or secondary schools and/or for college teaching or research. 2) It prepares students for careers in industry. 3) It offers a general background to students who are interested in jobs with state or federal agencies. 4) It provides a background for students to become educated, well informed adults. Majors are encouraged to continue study for advanced degrees (M.A. or Ph.D.) because those individuals are more likely to be selected for positions in the field.

A concentration in public archaeology is designed to provide the basic knowledge and training necessary for careers in contract archaeology and cultural resource management. The program introduces students to the history of the development of public archaeology and to the study of federal, state and local legislation protecting archaeological resources. The concentration relies heavily on cognate courses in geology and geography.

Anthropology Major

a) Cultural Anthropology Concentration

Requirements:

AN 100 Introduction to Cultural Anthropology

AN 101 Introduction to Physical Anthropology

AN 321 Comparative Social Structures

AN 323 Anthropological Theory

Six other courses in Anthropology

Cognate requirements:

BH 201 Quantitative Methods in the Behavioral Sciences

or

MA 110 Elementary Statistics I

or

CS 100 Introduction to Computer Science

A one-year sequence of foreign language study at the intermediate level, or its equivalent.

b) Public Archaeology Concentration

Requirements:

AN 100 Introduction to Cultural Anthropology

AN 101 Introduction to Physical Anthropology

AN 103 Introduction to Archaeology

AN 206 Native Cultures of North America

AN 328 Archaeology of North America

AN 410 Public Archaeology

AN 323 Anthropological Theory

or

AN 333 Archaeological Theory

Nine credits of field work: any combination of

AN 303 Archaeological Field Excavation in

Prehistorical Sites in New England

Three credits of Internship and/or Directed

Study in the field

One other course in Anthropology

Cognate requirements:

ES 100 Physical Geology

ES 101 Historical Geology

MA 110 Elementary Statistics I

or

BH 201 Quantitative Methods in the Behavioral Sciences

or

CS 100 Introduction to Computer Science

Three courses from:

ES 102 History of the Earth

ES 194 Environmental Geology

ES 284 Geomorphology

ES 462 Geology of North America

ES 466 Glacial Geology

ES 476 Sedimentology and Stratigraphy

GE 216 Cartography

GE 217 Air Photo Interpretation—Surveying

BI 313 Techniques of Interpretation for the Naturalist

A one-year sequence of foreign language study at the intermediate level, or its equivalent.

Minor in High School Education

Students minoring in education must refer to the Department of High School, Middle School, and Adult Education for specific teacher certification and program requirements.

Anthropology Minor

18 credits in Anthropology as recommended by the Department.

Sociology

Bachelor of Arts/Bachelor of Science

Human beings interact in several ways with other human beings and construct patterns of relationships, groups, classes, institutions, and societies. We are individuals but necessarily participate in and are shaped by the large number of relationships that constitute social reality. The sociological perspective focuses on these social relationships.

The objective in all courses is to provide the student with an understanding of how these social relationships arise, why they persist, what effects they have, how they maintain social order or contribute to social change. This understanding is provided by means of classroom learning of the theories and methods of research used by the practitioners of sociology and by internship practices in the field, where the student is expected to apply or deepen classroom learning. This objective is designed with the hope that it will facilitate the student's entrance into the labor market or graduate school.

Sociology Major

SO 102 Introduction to Sociology

SO 400 Seminar: Social Theory

SO 402 Seminar: Research Methods in Sociology

plus a minimum of seven other courses in Sociology

MA 110 Elementary Statistics I

or

BH 201 Quantitative Methods in the Behavioral Sciences

Sociology Minor

18 credits in Sociology as recommended by the Department.

Criminology Concentration

The Sociology Major with a concentration in Criminology is designed for students who are considering possible careers in the diverse area of the administration of justice. The program introduces and sensitizes students to the different dimensions and explanations of crime and delinquency, as well as provides analyses of structural sources and the legislative process involved in the formulation of the criminal law.

Requirements:

SO 102 Introduction to Sociology

SO 304 Social Stratification: Class, Status and Power in America

SO 327 Deviance and Social Control

SO 328 Criminology

SO 334 White Collar Crime

SO 354 Sociology of Corrections

SO 355 Juvenile Delinquency

SO 384 Criminal and Delinquent Behavioral Systems

SO 400 Seminar: Social Theory

SO 402 Seminar: Research Methods in Sociology
A field work placement assignment of 3-15 hours is required.
Cognate requirements:
HE 305 Drugs in Society
PY 369 Psychology of Criminal Behavior

Third World Studies Concentration

Students selecting this concentration will study selected Third World societies: their institutions, social structure, development and changing place in the world.

Requirements:

SO 102 Introduction to Sociology

SO 210 Society and Culture in Modern India

or

SO 221 Religion and Society in Asia

SO 319 Population and Society

SO 220 The Sociology of the Third World

SO 335 Social Change

SO 400 Seminar: Social Change

SO 402 Seminar: Research Methods in Sociology

SO 302 Social Problems

or

SO 212 Sociology of Discrimination and Prejudice

or

SO 340 Sociology of Politics

SO 498 Field Experience in Sociology

(for six semester hour credits)

Cognate Requirements:

AN 100 Introduction to Cultural Anthropology

plus

AN 206 Native Cultures of North America

or

AN 310 Peoples and Cultures of Africa

or

AN 321 Comparative Social Structures

plus any two of the following:

HI 324 History of the Middle East

HI 329 Africa Since 1800

HI 348 Afro-American History

HI 393 South Asia: The Modern Period

PO 382 Latin American Government and Politics

PO 387 Government and Politics of Africa

plus any applicable prerequisites

Minor in High School Education

Students minoring in education must refer to the Department of High School, Middle School, and Adult Education for specific teacher certification and program requirements.

Graduate Programs

Appropriate courses in anthropology and sociology may be taken, with faculty advisor approval, in the Division's Master of Arts in Teaching and CAGS programs in Behavioral Sciences. Detailed information regarding these graduate programs, including a list of recommended courses, may be found under the Division of Behavioral Sciences heading, as well as in the Graduate School section of this catalogue.

The departmental offerings listed below include courses which may not be taken for graduate credit:

All anthropology courses below the 300 level

AN 498 Field Experience in Anthropology

AN 499 Directed Study in Anthropology

SO 102 Introduction to Sociology

SO 330 Woman's Roles: Sociology of Sex Gender

SO 498 Field Experience in Sociology

SO 499 Directed Study in Sociology

Course Offerings*

Anthropology

AN 100 Introduction to Cultural Anthropology (3 crs.)

This course introduces basic anthropological concepts and methods of cultural analysis. The problems of ethnocentricity and human cultural variability in human societies of different time and places will be studied. Satisfies the GER in Behavioral Sciences. *Either semester*

AN 101 Introduction to Physical Anthropology (3 crs.)

This course covers the following areas: divisions of anthropology, theories and principles of evolution, primate and hominid evolution and behavior, origins of hominid physical and cultural development and concepts of racial variation. Formerly AN 201. Satisfies the GER in Behavioral Sciences. *Either semester.*

AN 103 Introduction to Archaeology (3 crs.)

This course examines research methods, systems of data recording and analysis and reconstruction of cultural lifeways of past cultures. The conceptual bases of the study of the past are explored through material culture. Formerly AN 302. Satisfies the GER in Behavioral Sciences. *Offered alternate years. Fall semester*

AN/SO 104 Global Human Issues (3 crs.)

This interdisciplinary course treats major world problems with particular emphasis upon those faced by non-Western peoples. The interdependence between economically developed and underdeveloped parts of the world will be explored according to such themes as collective versus individual good, short versus long-term planning and cooperation versus competition. Formerly AN 204. Satisfies the GER in Non-Western Civilization.

AN 105 Culture Change (3 crs.)

This course focuses on the processes of culture change intentioned and unintentioned, internal and external. It will explore reaction strategies of cultures toward imminent change. The course concludes with a consideration of how models can be applied to producing non-destructive, non-exploitative culture change. Formerly AN 205. Satisfies the GER in Behavioral Sciences. *Spring semester.*

AN 110 Introduction to Folklore (3 crs.)

This course explores the meanings and subdivisions of folklore: myth, folktale, proverb, riddles and folklife. It covers the analysis of story elements, major folklore areas and the role of folklore areas and the role of folklore and folklife in society and culture. Formerly AN 210. Satisfies the GER in Behavioral Sciences. *Either semester*

AN 111 Myth and Culture (3 crs.)

This course introduces the cross-cultural approach to world mythology. Myths of our own and other cultures will be analyzed using several theoretical approaches. Myth will be examined as a fundamental human function, necessary for the well-being of both cultures. Formerly AN 211. Satisfies the GER in Behavioral Sciences. *Fall semester.*

AN 206 Native Cultures of North America (3 crs.)

This cross-cultural course studies the tribal cultures of the United States, Canada and Mexico. Emphasis will be placed on developing and understanding of Native American cultural systems in their traditional settings and on the current status of Native American interaction with government policies and attitudes. Formerly AN 306. Satisfies the GER in Non-Western Civilization. *Offered alternate years*

AN 207 Anthropology of Religion (3 crs.)

The origins and development of religion in society; myth, ritual, magic, and religious specialists. Australian, African, and American Indian. *Offered alternate years, Fall semester*

AN 213 Latin American Peoples and Cultures (3 crs.)

This course will investigate the culture, history and development of selected Latin American regions and their contemporary relations with the United States, Mexico/Guatemala and Central and South America will be studied by means of ethnographic and cross-cultural documents of the past and present which reveal changing conditions of society, land ownership, ethnicity and political allegiance. Formerly AN 313. Satisfies the GER in Non-Western Civilization

AN 303 Archaeological Field Excavation in Prehistoric Sites in New England (2-6 crs.)

Intensive training in excavation techniques, field recording, and primary cataloging and analysis of archaeological materials. (Prerequisite: Consent of the Instructor) *Offered in Summer only*

AN 304 Personality and Culture (3 crs.)

A study of the interrelationships between individual and society, focusing on major theories about the formulation of personality by the surrounding structures, including: a cross-cultural study of childhood; adolescence in changing American personality as compared with personality structures in traditional society. *Offered once every three years*

AN 307 Urban Anthropology (3 crs.)

The study of urban culture using anthropological fieldwork methods. *Offered once every three years*

AN 309 Anthropology of Art (3 crs.)

This course will consider particular art forms in their cultural contexts. It will begin with forms considered conventional by Western standards - painting and sculpture - and examine them in prehistory and in non-Western contexts. Then the artistic properties of crafts and other types of production not usually accepted as art will be studied: masks, pottery, tools, house plans, arrangements of objects, ritual, the role and philosophy as well as the mystique of the artist will be contrasted in a number of contexts. The imposition of Western art ideology on native cultures, the creation of syncretic and tourist art will be used to epitomize the ongoing interests of anthropology of art. *Offered once every three years, spring semester*

AN 310 Peoples and Cultures of Africa (3 crs.)

A survey of the multiplicity of ways in which contemporary societies, rural and urban, arrange their ways of life in a rapidly changing Africa. *Offered once every three years, spring semester*

AN/SO 315 Ethnic Experience in America (3 crs.)

This course considers the role of ethnic background in personal and social relationships. The varying interpretations of ethnic culture--its formation and growth in America--are examined while each student looks into his or her personal heritage and the role of tradition in contemporary life. *Spring semester*

AN 321 Comparative Social Structures (3 crs.)

A comparison of social structures of selected non-Western societies. Stress is placed upon the meaning of society, structure, and analytical methods of comparison. (Prerequisite: AN 100) *Fall semester*

AN 322 War, Peace and Culture (3 crs.)

This course proceeds from the premise that while conflict of some sort is inevitable within and among human cultures, war is not. By investigating the origins, control and resolution of conflict in a variety of cultures, the course creates an opportunity to study war and the possibilities of peace. *Spring semester*

*See pages 66-67 for general information regarding course offerings.

AN 323 Anthropological Theory (3 crs.)

A survey of the early schools of cultural theory including Adolf Bastian, Lewis Morgan, Edward B. Tylor, the British Diffusionists, The German Historical-Diffusionist School, French Sociology. Functionalism, including Franz Boas to Levi-Strauss. Current theory. *(Prerequisite: AN 100, AN 207, or AN 210) Spring semester*

AN 328 Archaeology of North America (3 crs.)

The development of prehistoric and proto-historic Native American cultures. Cultural dynamics of hunting-gathering and maize agriculture. Theories of the peopling of the continent will be evaluated. *Offered alternate years*

AN 330 Medical Anthropology (3 crs.)

The course concentrates on health, illness, and healing in cross-cultural perspective. It will examine ways in which culture mediates ideas of physical well-being, and will be aimed at dispelling belief in the absolute truth of medical dogma, teaching students to think outside their own cultural biases. It begins with a consideration of body image in a range of different cultures and then proceeds to the varying rationales for normal function and for dysfunction. The healing process as ritual and as scientific procedure, including the theory and practice of healing in different cultures, figures into the course as does the training and outlook of healers--doctors, priests, shamans, nurses, midwives, and others. Finally, the medical systems of several cultures, ancient and modern, industrialized and pre-industrial are compared. *Spring semester*

AN 333 Archaeological Theory (3 crs.)

A seminar course dealing with theories of archaeology from the late 19th century to the present, including the ideas of Petrie, Childe, Wheeler, Taylor, Braidwood, Rouse, Binford, Flannery, Redman, and Trigger. The course will address opportunities and problems arising from the introduction of the "New Archaeology" in the early 1960's and will attempt to reconcile these new ideas with their predecessors. *(Prerequisite: AN 302) Offered alternate years*

AN 345 Cooperation in Cultures (3 crs.)

This course introduces the idea of cooperation as a cultural form. Beginning with the theory of cooperative behavior from the social contract to mutual aid and solidarity, it continues to examine a number of cooperative possibilities in different cultures, including programs for sharing resources, pan-cultural movements and internationalism. *Fall semester*

AN 350 Special Topics in Anthropology (3 crs.)

Various and special topics of current interest in anthropology will be offered from time to time. Topics will be announced before pre-registration. May be taken more than once but only three credits will be counted toward the first 30 hours of the major. *(Prerequisite: Three hours in anthropology or permission of the Instructor) Offered alternate years*

AN 410 Public Archaeology (3 crs.)

An introduction to the field of Public Archaeology, its history of development. Emphasis will be placed on the basic knowledge and training necessary for careers in contract archaeology and cultural resource management: 1) to introduce students to the history of the development of public archaeology; 2) to study the federal, state, and local legislation protecting archaeological resources; 3) to provide administrative training for doing contract archaeology - contract and research proposal development, report writing, Environmental Impact Statement interpretation - and to provide a basic background for cultural resource management careers. *(Prerequisite: AN 302 or consent of Instructor) Offered alternate years*

AN 498 Field Experience in Anthropology (3-15 crs.)

The field experience provides an opportunity for students to apply methods of fieldwork in ongoing societies; to design field studies; to learn methods for collection and analysis of empirical data; and to participate in experimental field projects. *(Prerequisite: Consent of the Instructor)*

AN 499 Directed Study in Anthropology (1-3 crs.)

Open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. *(Prerequisite: Consent of the Department)*

Other Approved Courses:

AN 311 The Emergence of Cities

AN 332 Practicum in Field Archaeology

AN 502 Research (credit to be arranged)

Original research undertaken by the graduate student in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

AN 503 Directed Study (credit to be arranged)

Designed for the graduate student who desires to study selected topics in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

AN 510 Symbolic Anthropology (3 crs.)

The course considers symbols in the context of anthropological theories of culture, and is divided into two sections: on the nature of symbols and on the symbolic analysis of cultural institutions. The origin of symbols, their universality and variability are taken up in the first section while their role in ritual, language, social organization and other cultural systems is studied in the second section. *(Prerequisite: AN 100 or any introduction to cultural anthropology)*

AN 520 Ethnographic Film (3 crs.)

The course compares written ethnography with the increasingly important medium of film ethnography and identifies the unique features of film as a means of communicating conclusions about culture. Emphasis is on the attributes of ethnography on film: viewpoint, editing, time sequence, setting, documentation. Students will read ethnographies and view selected films presenting the same cultures.

AN 525 Problems of New England Archaeology (3 crs.)

An intensive seminar course in local prehistory, exploring the cultural and environmental evidence for settlement and subsistence patterns in the Northeast. Important considerations will include how we know what we know, and why we currently do not know more about the prehistoric inhabitants of this area. Individual research papers will be assigned. *(Prerequisite: AN 302, AN 303, AN 328, or equivalent)*

AN 526 Cultural Resource Management (3 crs.)

For graduate students seeking employment in the field of conservation archaeology. A detailed survey of the techniques and importance of cultural resource management, including archival research, field strategies, conservation of finds, report writing, and archaeological legislation. Individual research papers will be assigned. *(Prerequisite: AN 302, AN 303, AN 333, AN 410 or equivalents)*

AN 590 Seminar: Community Cultures in Southeastern Massachusetts (3 crs.)

Examination of cultural traditions, changing beliefs and institutions, current folklore, and oral traditions in relation to specific ethnic, political, and economic groupings in southeastern Massachusetts.

Sociology

SO 102 Introduction to Sociology (3 crs.)

This course covers such areas as social structure, basic human institutions, analysis of special processes and major social forces. Formerly SO 202. Satisfies the GER in Behavioral Sciences. *Either semester*

SO/AN 104 Global Human Issues (3 crs.)

This interdisciplinary course treats major world problems with particular emphasis upon those faced by non-Western peoples. The interdependence between economically developed and underdeveloped parts of the world will be explored according to such themes as collective versus individual good, short versus long-term planning and cooperation versus competition. Formerly SO 204. Satisfies the GER in non-Western Civilization.

SO 210 Society and Culture in Modern India (3 crs.)

This descriptive and analytical examination of societies of the Indian subcontinent deals with their cultural histories and their economic, social, political and religious institutions. Problems of cultural and social change are treated. Formerly SO 310. Satisfies the GER in Non-Western Civilization. *Offered once every three years.*

SO 212 Discrimination and Prejudice (3 crs.)

This course is a study of the relationship between majority groups in America, with attention to the domination of categories of people on the basis of their race, sex, age, ethnicity and/or religion. Theories and data will be presented concerning the development, maintenance and operation of discrimination and prejudice, and the relationship between them. Formerly SO 312. Satisfies the GER in Behavioral Sciences. *Fall semester.*

SO 214 Islamic Societies of the Middle East (3 crs.)

This course introduces the problems and issues of Islamic society and culture brought about by social change in the Middle East. It will consider such topics as patterns of leadership, the distribution of wealth and power, norms related to social structure and change. Satisfies the GER in Non-Western Civilization.

SO 219 Population and Society (3 crs.)

This course describes the mutual influence of demography and social structure. Trends in population growth and their effect on industrialization and urbanization will be covered in the context of developed and Third World nations. Formerly SO 319. Satisfies the GER in Behavioral Sciences. *Spring semester.*

SO 220 The Sociology of the Third World (3 crs.)

This course introduces the sociological aspects of development in the Third World and the role of the West in that process. Industrialization, urbanization, education, the "Green Revolution," population growth, class structure, political structure, etc., are related to development. Formerly SO 330. Satisfies the GER in Non-Western Civilization. *Offered alternate years.*

SO 221 Religion and Society in Modern Asia (3 crs.)

The interrelationships between religion and social change will be discussed with particular reference to Japan, India and Ceylon and to other selected Asiatic countries. The major characteristics of Islam, Hinduism and Buddhism will be studied in relation to their effect on society. Formerly SO 321. Satisfies the GER in Non-Western Civilization. *Offered alternate years.*

SO 302 Social Problems (3 crs.)

Contemporary social problems which are reflected in the behavior of individuals, but whose origins and causes lie outside of individuals. Topics treated will include drug abuse, crime, juvenile delinquency, divorce and other family problems, mental illness and other health problems, social class, and selected social issues. *Either semester*

SO 303 The Family (3 crs.)

The family as a social institution in terms of its historical and cultural development. Analysis of psychological and social factors in contemporary family life. *Either semester*

SO 304 Social Stratification: Class, Status and Power in America (3 crs.)

Historical and contemporary examples of the range of stratification systems. Problems of class and caste conflicts. Trends in class system and social mobility, with special attention given to similarities and differences of modern industrial societies. *Fall semester*

SO 305 Sociology of Education (3 crs.)

Educative factors in the social process. Some attention will be given to preliterate cultures and the functioning of the dominant institutions. Major emphasis on the relation of stratification to education, and of education to horizontal and vertical mobility. Social class and ethnic backgrounds will be examined for their relationship to the functioning of schools. Recent well-known empirical findings will be discussed. *Spring semester*

SO 306 Urban Sociology (3 crs.)

A sociological and ecological analysis of the city in terms of urban institutional and personality patterns, folkways and mores. Ecological processes and structures. The city as a center of dominance over a trade area and hinterland. (*Prerequisite: SO 102*) *Offered alternate years, Spring semester*

SO 307 Medical Sociology (3 crs.)

Concepts of health, illness, disease, and health care analyzed from the perspectives of patient (client), practitioner and relevant third parties. Medicine will be analyzed as a social system, with attention to factors in the physical and sociocultural environment, and case materials will be drawn from non-Western as well as Western societies. (*Prerequisite: SO 102, or permission of the Instructor*) *Offered alternate years, fall semester*

SO 308 Sociology of Religion (3 crs.)

Comparative study of religious systems and institutions; function and role of religion and the church in society; professional status, history and relations of the clergy. *Spring semester*

SO/AN 315 Ethnic Experience in America (3 crs.)

This course considers the role of ethnic background in personal and social relationships. The varying interpretations of ethnic culture--its formation and growth in America--are examined while each student looks into his or her personal heritage and the role of tradition in contemporary life. *Spring semester*

SO 326 Social Gerontology - Sociology of Aging (3 crs.)

This course will focus on aging in America as a social problem. Topics covered will include reasons for the view of aging as a problem. The impact of aging on individuals and society, sociological theories of aging, and proposed ways of alleviating or eliminating aging as a problem. (*Prerequisite: SO 102*) *Spring semester*

SO 327 Deviance and Social Control (3 crs.)

This course examines deviant acts with an eye toward understanding social order and change. Topics covered include the types and causes of deviance, the social conditions and elements of deviant acts, and the effects of deviance and mechanisms for prevention, punishing, and rehabilitating deviant individuals and groups. (Prerequisite: SO 102, or permission of the Instructor) Fall semester

SO 328 Criminology (3 crs.)

This course will be concerned with theories of crime causation, and perspectives on administration, treatment, prevention, and prediction. Consideration will be given to the influence of social class and other factors in criminal behavior. (Prerequisite: SO 102, or permission of the Instructor) Either semester

SO 329 Public Opinion and Mass Media (3 crs.)

Principles of mass communication and public opinion will be discussed from the point of view of the source of a message, the message itself, the audience, the channel through which the message proceeds and the effect of the message. (Prerequisite: SO 102, or permission of the Instructor) Offered once every three years

SO 330 Woman's Roles: Sociology of Sex and Gender (3 crs.)

An analytical study of the relation of sex to power and influence in society. Differentiation in sex roles as affected by the economy and reinforced by other institutions. New alternatives for women. Spring semester

SO 332 Sociology of Organizations (3 crs.)

This course will deal with the emergence, structure, function, and social significance of complex organizations. Emphasis will be placed upon the results of research in hospitals, schools, prisons, and military and industrial organizations. Some attention will be given to informal associations and organizational change. Reciprocal role changes for men. (Prerequisite: SO 102, or permission of the Instructor) Fall semester

SO 334 White Collar Crime (3 crs.)

Broadening the definition of crime, this course will study the behavioral systems involved in the commission of white collar crimes in complex structures, such as government bureaucracies, multi-national corporations, and underground systems. The modern institutional factors--political and social--permitting or restricting the commission of such crimes will be investigated. Specifically, the performance of the criminal justice system will be examined. (Prerequisite: SO 102) Spring semester

SO 335 Social Change (3 crs.)

Sources, patterns, spheres, levels, processes, policies of social change. Classical, neo-classical, modern theories in the field. The course emphasizes the above as related to contemporary societies. (Prerequisite: SO 102, or permission of the Instructor) Offered alternate years, fall semester

SO 340 Sociology of Politics (3 crs.)

A study of the state, political practices, power, and theories in the field. The emphasis is on the sociological conditions under which the above phenomena evolve. (Prerequisite: SO 202, or consent of the Instructor) Offered alternate years, fall semester

SO 350 Sociology of Work (3 crs.)

An analysis of the occupational system as affected by the "non-economic" institutional factors. Changes in the occupational structure and the class structure; employers and trade unions; managers and workers; work situation and the life situation; professionalization and "white collar unionism." Spring semester

SO 354 Sociology of Corrections (3 crs.)

Analysis of the social structures and processes involved in dealing with individuals who have been designated as offenders of criminal law. Probation, prison, parole, programs of prevention and rehabilitation. (Prerequisite: SO 328) Fall semester

SO 355 Juvenile Delinquency (3 crs.)

Analysis of the nature and types of juvenile behavior that violates law; the mechanisms of defining such behavior as delinquent; and the relationship between delinquency and the social situations of juvenile offenders. (Prerequisite: SO 102) Fall semester

SO 384 Criminal and Delinquent Behavioral Systems (3 crs.)

A study of behavioral systems in the commission of crime and delinquency. Such systems include institutional as well as more informal social structures and patterns of behaviors, including the normative rationalizations that support and legitimize criminal and delinquent behaviors in society. (Prerequisite: SO 328) Spring semester

SO 399 Special Topics in Sociology (3 crs.)

Various special topics of current interest in sociology will be offered from time to time. Topics will be announced before registration. May be taken more than once but only three (3) credits will be counted toward the first 30 hours in the sociology major. (Prerequisite: SO 102) Fall semester

SO 400 Seminar: Social Theory (3 crs.)

The history of social theory and selected topics in modern social theories, analysis of alternative conceptual approaches and their methodological requirements. For majors in sociology or behavioral sciences. (Prerequisite: SO 102 or permission of the Instructor) Either semester

SO 402 Seminar: Research Methods in Sociology (3 crs.)

Application of scientific methods to the analysis of social phenomena, methodological orientation in sociology, types of research procedures, nature of sociological variables. For majors in sociology or behavioral sciences. (Prerequisite: SO 102 or permission of the Instructor) Either semester

SO 498 Field Experience in Sociology* (3-15 crs.)

The field experience provides an academic experience in which the student contributes to the ongoing organizational process while learning to apply sociological theories to observations of structure, function and process in a particular institution. (Prerequisite: Consent of the Department) Either semester

SO 499 Directed Study in Sociology* (1-3 crs.)

Open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. (Prerequisite: Consent of the Department) Either semester

Other Approved Courses:

SO 325 Sociology of Small Groups
SO 401 Contemporary Sociological Theory
SO 497 Research

*No more than six hours of any combination of SO 498 and SO 499 may be counted toward the first 30 hours of the sociology requirements for a major.

SO 501 Graduate Seminar in Sociological Theory (3 crs.)

Designed to foster skills in theory construction and in analyzing several major sociological paradigms and schools of thought, including structural-functionalism, conflict theory, and symbolic interaction. Readings from classical and modern sociologists such as Durkheim, Marx, Spencer, Parsons, and Homans will be examined. *(Prerequisite: A minimum of three sociology courses acceptable to the department or consent of the Instructor)*

SO 502 Research (credit to be arranged)

Original research undertaken by the graduate student in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

SO 503 Directed Study (credit to be arranged)

Designed for the graduate student who desires to study selected topics in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

SO 504 Graduate Seminar in Sociological Research Methodology (3 crs.)

Detailed discussion and use of techniques for the empirical study of social order including exploratory, descriptive, and causal research; observation (structured and unstructured), interviews and questionnaires; survey research and experimental design, content analysis, sampling, problems in measurement techniques and data analysis. *(Prerequisite: A minimum of three courses acceptable to the department or consent of the Instructor)*

SO 506 Theories of Race and Ethnic Relations (3 crs.)

Focus on the use of racial and ethnic characteristics in the operation of inequality in society. Beginning with the general principles of intergroup relations (majority and minority concepts), material will be introduced to apply these ideas to specific experiences of racial and ethnic groups, especially Black Americans. *(Prerequisite: A minimum of three sociology courses acceptable to the department or consent of the Instructor)*

SO 508 Social Stratification in Comparative Perspectives (3 crs.)

Theories of inequality between groups in historical perspective, from classical to modern industrial times. Discussion and evaluation of sociological research in social stratification in regard to different social and cultural groups. *(Prerequisite: A minimum of three sociology courses acceptable to the department or consent of the Instructor)*

SO 510 Urban Community Analysis (3 crs.)

The changing structure and dynamics of urban social organization in the context of modernization and urbanization. Emphasis upon cities and metropolitan areas in America. *(Prerequisite: A minimum of three sociology courses acceptable to the department or consent of the Instructor)*

SO 514 Theories of Social Deviance (3 crs.)

Descriptions and explanations of a variety of deviant behavior, beliefs, and attributes, including mental and physical deviance, deviant sexual practices, and religious cult movements. Reading, writing, and observation will be conducted in order to understand the social forces that contribute to the creation, maintenance, and change of deviant relationships involved in vice, sin, disloyalty, and crime. *(Prerequisite: A minimum of three sociology courses acceptable to the department or consent of the Instructor)*

SO 516 Sociology of Sex and Gender (3 crs.)

Ramifications of ascribed statuses "male" and "female" in contemporary and noncontemporary societies. Origins and effects of gender roles. Examination of myths explaining gender roles. Projections for the future. *(Prerequisite: A minimum of three sociology courses acceptable to the department or consent of the Instructor)*

SO 518 Sociology of Aging (3 crs.)

Sociological forces in the aging process and among the aged. Examination of the impact of physiological and psychological forces on the process. The major social institutions and their interactions with aging. Policy implications for the future. *(Prerequisite: A minimum of three sociology courses acceptable to the department or consent of the Instructor)*

SO 520 Sociological Analysis of Small Groups (3 crs.)

Description and analysis of the formation, structure, and nature of relationships observed in small and informal groups, including work groups, families, peer groups, cliques, religious sects, communes, and aristocracies. *(Prerequisite: Consent of the Instructor)*

SO 528 Seminar: Sociology of Education (3 crs.)

Sociological theories and research relevant to issues in education. Investigation of selected problems from a sociological perspective: socialization, selection and social stratification patterns; bureaucracy, professionalization, and authority relations in schools; prospect of social change resulting from school reform. *(Prerequisite: A minimum of three sociology courses acceptable to the department or consent of the Instructor)*

SO 530 Seminar in Society, Culture, and Personality (3 crs.)

Analysis of a variety of structures and processes that influence individuals and that relate them to their social milieux and cultural products. Attention will also be paid to the manner in which individuals both interact with and change social structures and cultural environments, such as technology, institutions, and ideologies. *(Prerequisite: A minimum of three sociology courses acceptable to the department or consent of the Instructor)*

SO 580 Special Topics in Social Research Techniques (3 crs.)

Designed to take advantage of the 1) availability of faculty with special expertise in certain issues and techniques of sociological research; 2) specific methodological interests and needs expressed by students; and 3) significant developments in the field of sociology and in society. One or more from a number of methods or methodological issues may be studied, including, but not restricted to the following: survey research, measurement, research design, data analysis, evaluation research, needs assessment, and ethnomethodology. *(Prerequisite: A minimum of three sociology courses acceptable to the department or consent of the Instructor)*

SO 585 Special Topics in Sociological Theory (3 crs.)

Designed to take advantage of the 1) availability of faculty with special expertise in certain issues and approaches in sociological theory; 2) specific theoretical interests and needs expressed by students, and 3) significant developments in the field of sociology and in society. One or more from a number of theoretical issues may be examined consistent with the foregoing. *(Prerequisite: A minimum of three sociology courses acceptable to the department or consent of the Instructor)*

Department of Special Education

Chairperson: Professor William Murphy
Graduate Program Coordinator:
 Assistant Professor Alice Kirby
Professor: Tracy Baldrate
Associate Professor: Paul Prescott
Assistant Professor: Lydia Mederios

Undergraduate Programs

Bachelor of Science in Education

The Department of Special Education offers a program designed to meet the needs of undergraduates who are interested in special education and also in certification as a teacher of school age children with moderate special needs (N-9).

All students planning to pursue a teacher education program of study must apply for admission to and be accepted in the teacher education program. Information on this program may be found in the introductory section of the Division of Professional Education.

Students must also complete either the elementary or early childhood education certification program as part of the special education program.

Credits

SE 211 (U) The Special Needs Learner in the Preschool	3
or	
SE 212 (U) The Special Needs Learner in the Elementary School	3
SE 317 (U) Teaching Strategies in Mainstreamed Programs	3
SE 400 (U) The Culturally Different Child With Special Needs	3
SE 420 (U) Strategies for Individual Educational Programming	3
SE 435 (U) Behavioral Interventions in Special Education	3
SE 436 (U) Consulting Skills for Special Educators	3

SE 438 (U) Career Education for Special Needs Learners	3
SE 439 (U) Diagnostic Techniques for Special Educators	3
SE 292 (U) Language Acquisition and Development	3
SE 491 (U) Student Teaching Practicum (N-9)	7½
(For Special Education majors who defer graduation at the completion of the 4-year baccalaureate degree program and complete the student teaching (eight weeks) practicum as undergraduate students)	
or	
SE 591 (G) Practicum-Special Education (N-9)	6
(For Special Education majors who graduate at the completion of the 4-year baccalaureate degree program and complete the student teaching (eight weeks) practicum as graduate students)	

Total: 33 or 34½ credits

Minor in Special Education

- SE 211 The Special Needs Learner in the Pre-School
or
SE 212 The Special Needs Learner in the Elementary School
or
SE 213 The Special Needs Learner in the Middle School
or
SE 214 The Special Needs Learner in the High School
SE 317 Teaching Strategies in Mainstreamed Programs
SE 420 Strategies for Individual Educational Programming
Three courses from the following:
SE 400 The Culturally Different Child with Special Needs
SE 435 Behavior Interventions in Special Education
SE 436 Consulting Skills for Special Educators
SE 438 Career Education for Special Needs Learners
SE 439 Diagnostic Techniques for Special Educators
Either:
SE 498 Internship in Special Education
or
SE 499 Directed Study in Special Education

Graduate Programs

Master of Education in Special Education

The Department of Special Education offers several programs designed to meet the needs of graduate students.

Certification Track

Certified classroom teachers interested in certification as a Teacher of School Age Children with Moderate Special Needs (N-9) and a master's degree in Special Education follow a program which has been designed in accordance with Massachusetts Department of Education standards. Since this program is designed for students who already possess a Massachusetts classroom teaching certificate, applicants must file the Graduate School's form "Documentation of Certification Status." Students interested in this program should refer to Program A below.

Non-Certification Track

Students interested in a Master of Education in Special Education program which does not lead to certification should refer to Program B below.

Certificate of Advanced Graduate Study (CAGS)

Emphasis on Special Education - Including a Certification Option

Students who have already earned a master's degree and who wish to study special education (with or without the certification option) as part of a Certificate of Advanced Graduate Study (CAGS) in Education program should refer to Program C below.

Program A

For students certified as Massachusetts classroom teachers who wish to be certified as Teachers of School Age Children with Moderate Special Needs (N-9) and who wish to earn a Master's Degree in Special Education.

All accepted students must enroll under the direction of their advisor in *GS 501 Graduate Program Planning*, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue. (*SE 510 Exceptional Children in the Schools* is a prerequisite for all other courses in the program.)

<i>Required Courses in Special Education:</i>	<i>Credits</i>
• SE 510 (G) Exceptional Children in the Schools	3
• SE 400 (G) The Culturally Different Child with Special Needs or SE 540 (G) Contemporary Issues and Mandates in Bilingual Special Education	3
• SE 420 (G) Strategies for Individual Educational Programming	3
• SE 435 (G) Behavior Interventions in Special Education or SE 542 (G) Behavior Interventions in Bilingual Special Education	3
• SE 439 (G) Diagnostic Techniques for Special Educators or SE 541 (G) Non-Discriminatory Assessment I	3
• SE 517 (G) Thought and Language Skills of Special Needs Learners	3
• Two electives in special education appropriate to the background and needs of the student and approved by the advisor. (Students completing a concentration in bilingual special education must complete SE 544 and SE 546)	6
• SE 591/592 (G) Practicum or Internship - Special Education (N-9) or SE 548/549 (G) Special Education Practicum or Internship (working with bilingual children)	6

Sub-total: 30 graduate credits

Upon successful completion of the above sequence, the student will be eligible to apply for certification in Massachusetts as an N-9 Moderate Special Needs Teacher.

ADDITIONAL M.ED. REQUIREMENTS:

- SE 513 (G) Research and Seminar in Special Education 3
 - ED 520 (G) Psychological Foundations of Education 3
- Sub-total: 6 graduate credits
Total: minimum of 36 graduate credits

Students completing a concentration in bilingual special education should consult the Department regarding additional course requirements.

Program B

For graduate students interested in Special Education who wish to earn a master's degree (non-certification track) in Special Education. The program does not lead to certification as a Teacher of School Age Children with Moderate Special Needs.

All accepted students must enroll under the direction of their advisor in *GS 501 Graduate Program Planning*, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue. (*SE 510 Exceptional Children in the Schools* is a prerequisite for all other courses in the program.)

Required Courses in Special Education: Credits

- SE 510 (G) Exceptional Children in the Schools 3
- SE 400 (G) The Culturally Different Child with Special Needs 3
- SE 420 (G) Strategies for Individual Educational Programming 3
- SE 435 (G) Behavior Interventions in Special Education 3
- Students not holding or seeking certification in Special Education must also complete an appropriate practice experience through SE 503 (G) Directed Study 3

Sub-total: 12-15 graduate credits

- SE 513 (G) Research and Seminar in Special Education 3
- ED 520 (G) Psychological Foundations of Education 3
- Program Electives: Courses approved by the advisor based upon the student's background and objectives. It should be noted that students without considerable experience in special education will take a number of their electives in the special education area 15-18

Total: minimum of 36 graduate credits

Concentration in Bilingual Special Education

This concentration will provide educators with knowledge and skills in the area of bilingual special education. It will not lead to additional state or national certification.

The following courses are required: Credits

- GC 500 Research and Evaluation 3
- ED 520 Psychological Foundations of Education 3
- SE 510 Exceptional Children in the Schools 3
- SE 420 Strategies for Individual Educational Programming 3
- SE 517 Thought and Language Skills of Special Needs Learners 3
- SE 540 Contemporary Issues and Mandates in Bilingual and Special Education 3
- SE 542 Behavior Interventions in Bilingual Special Education 3
- SE 544 Language Development in Bilingualism 3
- SE 546 Strategies and Techniques for Adapting Bilingual Resources and Materials for the Special Needs Learner 3

or

- SE 547 Multiple Roles for Bilingual Teachers of Moderate Special Needs Children 3
- SE 503 Directed Study (Field experience with bilingual special needs students) 3
- SE 513 Research and Seminar in Special Education 3
- One elective in bilingual special education 3

Total: minimum of 36 graduate credits

Concentration in Mainstreaming Vocational Special Needs Students

This M.Ed. concentration will provide educators with knowledge and skills relative to mainstreaming special needs students in a vocational school setting. It will not lead to additional certification.

The following courses are required:

Credits

- GC 500 Research and Evaluation 3
- ED 520 Psychological Foundations of Education 3
- SE 510 Exceptional Children in the Schools 3
- SE 400 The Culturally Different Child with Special Needs 3
- SE 420 Strategies for Individual Educational Programming 3
- SE 428 Rehabilitations and Special Education 3
- SE 435 Behavior Intervention in Special Education 3
- SE 438 Career Education for Special Needs Learners...3
- SE 440 Identification, Assessment & Development of Individualized Educational Programs (I.E.P.) for Vocational Education 3
- SE 441 Strategies & Methods for Special Needs Students in Vocational Education 3
- SE 503 Directed Study (Field experience involving mainstreamed vocational special needs children) 3
- SE 513 Research and Seminar in Special Education ...3

Total: minimum of 36 credits

Program C

For students who have already earned a master's degree and who wish to study special education (with or without the certification option) as part of a Certificate of Advanced Graduate Study (CAGS) in Education program.

All accepted students must enroll under the direction of their advisor in *GS 501 Graduate Program Planning*, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue.

Students who wish to focus on special education within their CAGS program and who do not wish to be certified as a Teacher of School Age Children with Moderate Special Needs work closely with their special education advisor and pursue a course of study which meets their academic and professional objectives. For details, consult the "CAGS in Education" description in this catalogue.

CAGS students who wish to focus on special education and complete a state-approved program designed to prepare teachers of school age children with moderate special needs pursue the following course of study:

Required Courses in Special Education

Credits

- SE 510 (G) Exceptional Children in the Schools 3
- SE 400 (G) The Culturally Different Child with Special Needs
or
SE 540 (G) Contemporary Issues and Mandates in Bilingual Special Education 3
- SE 420 (G) Strategies for Individual Educational Programming 3
- SE 435 (G) Behavior Interventions in Special Education
or
SE 542 (G) Behavior Interventions in Bilingual Special Education 3
- SE 439 (G) Diagnostic Techniques for Special Educators
or
SE 541 (G) Non-Discriminatory Assessment I 3
- SE 517 (G) Thought and Language Skills of Special Needs Learners 3
- Two electives in special education appropriate to the background and needs of the student and approved by the advisor 6
- SE 591/592 (G) Practicum or Internship - Special Education (N-9)
or
SE 548/549 (G) Special Education Practicum or Internship (working with bilingual children) 6

Sub-total: 30 graduate credits

Upon successful completion of the above sequence, the student will be eligible to apply for certification in Massachusetts as an N-9 Moderate Special Needs Teacher.

ADDITIONAL CAGS REQUIREMENTS:

- ED 570 (G) CAGS Seminar (taken prior to acceptance) ...3
- ED 581 (G) CAGS Extern Program 3

For details regarding general CAGS requirements, consult the "CAGS in Education" description in this catalogue.

Students completing a concentration in bilingual special education should consult the Department regarding additional course requirements.

The departmental offerings listed below include the following courses which may not be taken for graduate credit:

- SE 211 The Special Needs Learner in the Pre-School
- SE 212 The Special Needs Learner in the Elementary School
- SE 213 The Special Needs Learner in the Middle School
- SE 214 The Special Needs Learner in the High School
- SE 317 Teaching Strategies in Mainstreamed Programs
- SE 491 Student Teaching Practicum or Internship
- SE 498 Internship in Special Education
- SE 499 Directed Study in Special Education

Course Offerings*

SE 211 The Special Needs Learner in the Pre-School (3 crs.)

This survey course will enable students to gain knowledge of the special needs learner in different educational settings. Academic work will be reinforced through a minimum of 3 field-based experiences which will help the students develop an awareness of the special needs learner. Emphasis in this course will be on the special needs learner at the pre-school level. *Either semester*

SE 212 The Special Needs Learner in the Elementary School (3 crs.)

This survey course will enable students to gain knowledge of the special needs learner in different educational settings. Academic work will be reinforced through a minimum of 3 field-based experiences which will help the students develop an awareness of the special needs learner. Emphasis in this course will be on the special needs learner at the elementary level. *Either semester*

SE 213 The Special Needs Learner in the Middle School (3 crs.)

This survey course will enable students to gain knowledge of the special needs learner in different educational settings. Academic work will be reinforced through a minimum of 3 field-based experiences which will help the students develop an awareness of the special needs learner. Emphasis in this course will be on the special needs learner at the middle school level. *Either semester*

SE 214 The Special Needs Learner in the High School (3 crs.)

This survey course will enable students to gain knowledge of the special needs learner in different educational settings. Academic work will be reinforced through a minimum of 3 field-based experiences which will help the students develop an awareness of the special needs learner. Emphasis in this course will be on the special needs learner at the high school level. *Either semester*

SE 317 Teaching Strategies in Mainstreamed Programs (3 crs.)

This course will enable the student to identify appropriate strategies to effectively educate special needs learners in regular classroom settings. It will provide the bridge between the principles of mainstreaming and its educational implementation by highlighting instructional strategies and curriculum adaptations that are possible within the regular classroom. A field experience is involved. (Prerequisite: PY 100 and SE 211 or SE 212 or SE 213 or SE 214) *Either semester*

SE 400 The Culturally Different Child with Special Needs (3 crs.)

This course will enable the student to develop the necessary competencies for teaching special needs children who are culturally and/or linguistically different. The course will combine psychological, linguistic, anthropological and educational findings with practical guidelines and strategies for instruction. (Prerequisite: PY 100 and SE 211 or SE 212 or SE 213 or SE 214 or SE 510) *Either semester*

SE 415 Methods and Materials for the Academically Talented (3 crs.)

Emphasis on the identification and placement of gifted pupils in our schools and the related program, enrichment activities, creative development, method and materials, modified curriculum, administration, motivation and treatment of underachievement. (Prerequisite: PY 100) *Offered primarily through the Program of Continuing Education*

SE 420 Strategies for Individual Educational Programming (3 crs.)

This course is designed to provide students with a comprehensive study of how to evolve and implement appropriate individual education programs (IEP's) consistent with special education laws, regulations, procedures, and assessment of data. Major alternative instructional strategies with emphasis on the diagnostic-prescriptive model will be addressed in the context of a resource room. (Prerequisite: PY 100; SE 211 or SE 212 or SE 213 or SE 214; SE 213) *Spring semester*

SE 428 Rehabilitation and Special Education (3 crs.)

Review of all of the procedures and processes of helping the mentally retarded, the physically handicapped, the emotionally disturbed, and the multi-handicapped through the medium of rehabilitation services. (Prerequisite: PY 100 and SE 211 or SE 212 or SE 213 or SE 214 or SE 510) *Offered through the Program of Continuing Education*

SE 430 Workshop in Adult Special Education (3 crs.)

An introductory course/workshop experience in the development and functioning of a special education program for mentally retarded adults. In addition to class work, students will participate in the operation of an on-going program including assessment and teaching opportunities. (Prerequisite: SE 510 or SE 211 or SE 212 or SE 213 or SE 214, or permission of the Instructor) *Offered alternate years, spring semester*

SE 435 Behavior Interventions in Special Education (3 crs.)

This course will focus on the background, basic principles and techniques necessary for effective development of behavior with special needs students. Emphasis will be placed on behavioral procedures that have been found effective for individual and classroom use, including the ability to systematically observe and record student behavior. Other interventions and their applications to special education settings will also be considered. (Prerequisite: PY 100 and SE 211 or SE 212 or SE 213 or SE 214 or SE 510) *Either semester*

SE 436 Consulting Skills for Special Educators (3 crs.)

This course emphasizes the development of consulting and training skills of the special educator. This will include a survey of the origins and dynamics of consulting techniques which will result in the student being able to work in a variety of settings. (Prerequisite: PY 100 and SE 211 or SE 212 or SE 213 or SE 214 or SE 510) *Spring semester*

SE 438 Career Education for Special Needs Learners (3 crs.)

This course will assist in preparing special educators to understand career educational needs of special needs learners. Students will develop skills in appropriate objective writing and curriculum design in the area of career education for special needs learners. (Prerequisite: PY 100 and SE 211 or SE 212 or SE 213 or SE 214 or SE 510) *Spring semester*

SE 439 Diagnostic Techniques for Special Educators (3 crs.)

This course will prepare students to administer, analyze and interpret standardized tests which are applicable in special needs settings. Consideration will be given to assessing instructional needs appropriate to the age, sex, developmental stage, social, racial and linguistic background of special needs learners. (Prerequisite: PY 100 and SE 211 or SE 212 or SE 213 or SE 214 or SE 510) *Spring semester*

SE 440 Identification, Assessment & Development of Individualized Educational Programs (I.E.P.) For Vocational Education (3 crs.)

The purpose of this course is to identify problems special needs learners may encounter in a vocational education setting. The role and responsibilities of vocational educators in developing individualized educational programs will be covered. Identification and assessment techniques will be thoroughly explored. *Offered through the Program of Continuing Education*

*See pages 66-67 for general information regarding course offerings.

SE 441 Strategies & Methods for Special Needs Students in Vocational Education (3 crs.)

The goal of this course is to enable the vocational educator to develop competencies in planning and implementing instruction for special needs students in vocational education classes. Techniques for modifying curriculum materials, curriculum content, teaching strategies and the physical environment will be addressed. (Prerequisite: SE 438) Offered through the Program of Continuing Education

SE 460 Topics in Special Education (3 crs.)

This course is designed for students who desire to study selected topics in this field; it will allow for timely and relevant information to be explored. Topic changes each semester. (Prerequisite: SE 212 or SE 213 or SE 214) Offered alternate years

SE 491 Student Teaching Practicum or Internship (7½ crs.)

Practicum involves full-time teaching in the role for one quarter under qualified practitioner and college supervisor or a minimum of 150 clock hours in the role for one semester under qualified practitioner and college supervisor, or a minimum of 150 clock hours in the role for two consecutive semesters under qualified practitioner and college supervisor. (Prerequisite: Unique program guidelines and prerequisites available from program coordinator and/or advisor) Either semester

SE 498 Internship in Special Education (3-15 crs.)

Off-campus experiences in areas related to expanding the student's background in Special Education. In-depth exposure to such areas as rehabilitation programs, sheltered workshops, day care centers, hospital and institutional programs. (Prerequisite: Consent of the Department) Either semester

SE 499 Directed Study in Special Education (1-3 crs.)

Open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. (Prerequisite: Consent of the Department) Either semester

Other Approved Courses:

SE 418 Etiology, Dynamics and Treatment of Children with Behavioral Needs

SE 422 Teaching Strategies for Severe Special Needs

SE 429 Workshop in Special Education

SE 502 Research (credit to be arranged)

Original research undertaken by the graduate student in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

SE 503 Directed Study (credit to be arranged)

Designed for the graduate student who desires to study selected topics in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

SE 510 Exceptional Children in the Schools (3 crs.)

An orientation to all aspects of education pertaining to special needs children. Emphasis will be on educational characteristics of each area of exceptionality and the new role of special education in the schools. Chapter 766 and P.L. 94-142 will be included.

SE 512 Organization and Administration of Special Education (3 crs.)

A comprehensive study of the psychological diagnosis, the personnel, the curriculum, the facilities, and the pupil services in an effective Special Education program. (Prerequisite: SE 211 or SE 212 or SE 213 or SE 214 or SE 510)

SE 513 Research and Seminar in Special Education (3 crs.)

A careful research to help determine changes in this field so that improved services and techniques might be realized. (Prerequisite: At least 30 credits toward the M.Ed. in Special Education)

SE 514 New Education Policies for Children with Special Needs (3 crs.)

The legal basis for the education of children with special needs to help them become accepted, productive and social members of our society. Integration, assessment, delabelization, and involvement declare the real responsibility of all parents' guardians, of all educators, and of all the American public. (Prerequisite: SE 211 or SE 212 or SE 213 or SE 214 or SE 510)

SE 515 Teacher Orientation to Learning Disabilities (3 crs.)

Acquaint in-service teachers with current statistics concerning children with Moderate Special Needs and encourage appreciation of the wide spectrum of difficulties these children have. Diagnosis and evaluation will be studied in conjunction with the fields of perceptual handicaps, physiology, neurology, and psychology. (Prerequisite: PY 224 and SE 211 or SE 212 or SE 213 or SE 214 or SE 510)

SE 517 Thought and Language Skills of Special Needs Learners (3 crs.)

Classroom techniques and strategies for the analysis and diagnosis of language learning dysfunctions. Emphasis will be on the development of a total language curriculum appropriate for remediation within special and mainstreamed programs. (Prerequisite: PY 100 and SE 211 or SE 212 or SE 213 or SE 214 or SE 510)

SE 536 Development of Auditory and Visual Perceptual Skills in Young Children (3 crs.)

Development of vision and audition as part of a sensory-action system with stress on the interaction between the functional and clinical aspects. Considerable time will be devoted to the recognition of perceptual skills and classroom problems involved in learning and learning difficulties. (Prerequisite: SE 515, PY 252, or permission of the Instructor)

SE 540 Contemporary Issues and Mandates in Bilingual and Special Education (3 crs.)

Skills will be developed for identifying "special needs" relative to educating children from minority groups using a case study approach. Emphasis will be on the laws (Chapter 766, P.L. 94-142) Lau Guidelines, Chapter 71A, Section 636, Section 504 of P.L. 93-112 and their implications for programming. (Prerequisite: PY 100 and SE 211 or SE 212 or SE 213 or SE 214 or SE 510)

SE 541 Non-Discriminatory Assessment I (3 crs.)

Skills will be developed for understanding the distinction between cultural differences and true disabilities. Emphasis will be on the linguistic and cultural biases of existing instruments and procedures and how to interpret test data, behavioral observations and informal techniques. (Prerequisite: PY 100 and SE 211 or SE 212 or SE 213 or SE 214 or SE 510)

SE 542 Behavior Interventions in Bilingual Special Education (3 crs.)

Skills will be developed for understanding how cultural differences affect behavior. The models of behavioral management will include positive peer culture, tribal orientation, cultural symbols, social relations in the classroom, and multicultural techniques in addition to the theories of Erikson, Maslow, and Skinner, and other psychological and cognitive models. (Prerequisite: PY 100 and SE 211 or SE 212 or SE 213 or SE 214 or SE 510)

SE 543 Non-Discriminatory Assessment II (3 crs.)

Case studies will be utilized for sharing and interpreting test data to other teachers, administrators, parents and consultants as well as including the prescribing of instructional programs from the test data. (Prerequisite: PY 100 and SE 211 or SE 212 or SE 213 or SE 214 or SE 510; SE 541)

SE 544 Language Development and Bilingualism (3 crs.)

Skills will be developed for identifying dominance and language proficiency, understanding theories of first and second language learning, relating methods and theories on reading to ESL materials and identifying biases and deficiencies in existing curriculum for linguistic and cultural minority students. Emphasis will be on the effect of culture and language differences on speech and language development. (Prerequisite: PY 100 and SE 211 or SE 212 or SE 213 or SE 214 or SE 510)

SE 545 Individual Education Planning in Bilingual Program Development and Instructional Alternatives (3 crs.)

Using a case study approach before writing an IEP, identifying child's strengths, weaknesses, learning style, general and specific behavioral goals, emotional, cultural constraints, and the criteria for moving to least restrictive environment, with an emphasis on preventing bilingual children from being referred to special education programs by identifying inadequate services for bilingual children and advocating for change under the mandates of Chapter 766 and Public Law 94-142. (Prerequisite: PY 100 and SE 211 or SE 212 or SE 213 or SE 214 or SE 510)

SE 546 Strategies and Techniques for Adapting Bilingual Resources and Materials for the Special Needs Learner (3 crs.)

Skills will be developed for organizing, planning, teaching and evaluating materials and programs for cultural/racial/linguistic biases and stereotyping, but with an additional focus on sensitivity to bilingualism and biculturalism. Emphasis will be on developing appropriate materials and strategies for meeting the needs of bilingual children in the classroom, the resource room, or least restrictive environment. (Prerequisite: PY 100 and SE 211 or SE 212 or SE 213 or SE 214 or SE 510)

SE 547 Multiple Roles for Bilingual Teachers of Moderate Special Needs Children (3 crs.)

Skills will be developed for the many roles a change-agent might function in, such as educators, consultants, advocates, liaisons, counselors, advisors and trainers. Emphasis will be on the major role of the Bilingual Special Educator as a change-agent in the school and community to reduce racial discrimination in regular and special education. (Prerequisite: PY 100 and SE 211 or SE 212 or SE 213 or SE 214 or SE 510)

SE 548 Special Education Practicum (Working with Bilingual Children) (6 crs.)

Practicum involves full-time teaching in the role for one quarter under qualified practitioner and college supervisor, or a minimum of 150 clock hours in the role for one semester under qualified practitioner and college supervisor, or a minimum of 150 clock hours in the role for two consecutive semesters under qualified practitioner and college supervisor. (Prerequisite: Unique program guidelines and prerequisites available from program coordinator and/or advisor)

SE 549 Special Education Internship (Working with Bilingual Children) (6 crs.)

Candidates who do not hold Massachusetts certification as Teachers of School Age Children with Moderate Special Needs and who are employed less than full time, but at least 1/5 time, in the role and at the level of the certificate desired, must complete a 300 clock hour internship within one calendar year. Students must register with the Program

Coordinator by May 15th for the fall semester or by October 15th for the spring semester internship. (Prerequisite: Completion of at least 8 of the 10 required courses in special education, and in some cases, all 10 required courses in special education--depending upon the selected option)

SE 582 Computers and the Special Needs Child (3 crs.)

This course demonstrates the unique impact computers can have on the education of students with a wide spectrum of special needs. Students review psychological perspectives on special education and computer techniques as tools to aid that education. Moderate and low-incidence severe handicaps are considered along with milder school disabilities. (Prerequisite: Teaching Certificate)

SE 590 Teaching the Gifted Child (3 crs.)

Meeting the special needs of gifted children with a three-stage teacher training model allowing students to design curriculum which will develop critical and creative thought. Working in small groups, students will shape their ideas to address the special needs of the gifted in both mainstream and separate program settings. (Prerequisite: SE 415 or permission of the Instructor)

SE 591 Practicum - Special Education (N-9) (6 crs.)

Practicum involves full-time teaching in the role for one quarter under qualified practitioner and college supervisor, or a minimum of 150 clock hours in the role for one semester under qualified practitioner and college supervisor, or a minimum of 150 clock hours in the role for two consecutive semesters under qualified practitioner and college supervisor. (Prerequisite: Unique program guidelines and prerequisites available from program coordinator and/or advisor)

SE 592 Internship - Special Education (N-9) (6 crs.)

Candidates who do not hold Massachusetts certification as Teachers of School Age Children with Moderate Special Needs and who are employed less than full time, but at least 1/5 time, in the role and at the level of the certificate desired, must complete a 300 clock hour internship within one calendar year. Students must register with the Program Coordinator by May 15th for the fall semester or by October 15th for the spring semester internship. (Prerequisite: Completion of at least 8 of the 10 required courses in special education, and in some cases all 10 required courses in special education--depending upon the selected option)

Department of Speech Communication, Theatre Arts, and Communication Disorders

Chairperson: Professor Joel P. Litvin
Professors: Stephen Levine, Nancy Street, Richard Warye
Associate Professors: Sandra Briggs, Lee Dunne,
 Susan Holton, Susan Miskelly
Assistant Professors: Arthur Dirks, Nancy Goulart,
 Nancy Moses, Suzanne Ramczyk, Sylvia White,
 Joanne Wuschke

Undergraduate Programs

Bachelor of Arts

Students majoring in this Department may choose one of three related concentrations: Speech Communication, Theatre Arts, or Communication Disorders.

Students enrolled in the Department must pass a Speech Proficiency Test before the end of their first year in the department.

In cooperation with the Department of Media and Librarianship, a minor in Radio and Television Operation and Production is available. For detailed information on this minor, see the catalogue section *Undergraduate Multidisciplinary and Pre-Professional Programs*, and consult the department.

In cooperation with the English Department and other disciplines, a minor in Linguistics is available. For detailed information on the Linguistics minor see the catalogue section *Undergraduate Multidisciplinary and Pre-Professional Programs*.

Speech Communication Concentration

Students selecting this concentration pursue a course of applied and theoretical studies in interpersonal relationships, small group communication, organizational communication, mass communication, public speaking, and debate. The minimum requirements include:

CC 130 Human Communication Skills
 CC 210 Voice and Diction
 CC 250 Public Speaking
 CC 260 Group Communication and Decision-Making
 CC 351 Rhetoric and Persuasion
 CC 450 Communicative Theory
 CC 495 Seminar in Communication
 plus three additional elective courses.

Speech Communication Minor

CC 130 Human Communication Skills
 CC 210 Voice and Diction
 plus twelve additional credits selected from Communication courses.

Communication Disorders Concentration

The concentration in Communication Disorders is a pre-professional program providing the necessary course work to continue in speech pathology, audiology or related fields at the graduate level. Courses in the specialization can be credited toward American Speech and Hearing Association Certification.

The minimum requirements include:

CC 130 Human Communication Skills
CC 210 Voice and Diction
CD 220 Introduction to Communication Disorders
CD 281 Speech Anatomy and Physiology
CD 291 Phonetics
CD 292 Language Acquisition and Development
CD 340 Introduction to Audiology
plus additional courses selected in conjunction with a faculty advisor.

Through programs available in the department, at the undergraduate and graduate levels, a student is able to satisfy the Massachusetts state requirements for certification for a teacher of Children with Speech, Language or Hearing Disorders.

If state or national certification is sought, a student must consult with the department in planning a program.

Communication Disorders Minor

CC 130 Human Communication Skills
CC 210 Voice and Diction
CD 220 Introduction to Communication Disorders
CD 281 Speech Anatomy and Physiology
CD 291 Phonetics
CD 292 Language Acquisition and Development

Theatre Concentration

Students selecting this concentration follow a program designed to develop skills in and appreciation of those subjects related to performance and production in live theatre. The minimum requirements include:

CC 130 Human Communication Skills
CC 210 Voice and Diction
CT 115 Play Production
CT 272 Stagecraft
CT 390 Principles of Acting
CT 332 Principles of Directing
CT 421 Theatre History I
CT 422 Theatre History II

Two credits in

CT 170 Technical Theatre Practicum
and two additional credits in:

CT 140 Theatre Performance Practicum
and/or
CT 170 Technical Theatre Practicum

Theatre Minor

CC 130 Human Communication Skills
CC 210 Voice and Diction
CT 115 Play Production

Two credits in:

CT 140 Theatre Performance Practicum
and/or
CT 170 Technical Theatre Practicum

Nine additional credits selected from Theatre courses.

Minor in High School Education

Students minoring in Education must refer to the Department of High School, Middle School, and Adult Education for specific requirements.

Co-Curricular Programs

The Department of Speech Communication, Theatre Arts, and Communication Disorders has an active children's theatre program which provides two productions a year for school age children. Four student clubs are actively engaged in co-curricular activities supportive of the academic programs in the department.

The Forensic Society participates in intercollegiate competition in debate, group discussion, and individual speech competition in over fifteen separate categories including persuasive, informative, humorous speaking and oral interpretation of literature. Membership is open to all students with or without previous experience.

The Communication Club is open to all students for information/interchange on the professions related to the field of communication studies.

The Bridgewater Chapter of the National Student Speech and Hearing Association is open to all students in the College Community with an interest in communication disorders. The group sponsors career counseling as well as professionally related workshops during the academic year.

The Ensemble Theatre, in cooperation with the Theatre Arts area of the department, produces two major theatrical productions a year, one of which usually is a musical. It also sponsors and produces student-directed studio productions, workshops, and social and educational activities, including theatre trips to Boston, Providence, and New York City.

The Dance Corps is open to all who like to dance and participate in the performance of original works. It presents two public programs per year and brings a professional dance company to the campus for a brief residence program and recital.

Co-Curricular Credits

Students may also receive credits in the department for active participation in debate, forensics, choral speaking, dance, or theatre-see course descriptions for:

CC 110 Forensics Practicum
CT 120 Choral Speaking Practicum
CT 140 Theatre Performance Practicum
CT/PE 155 Creative Dance Group
CT 170 Technical Theatre Practicum

Graduate Programs

Master of Arts in Communication Studies

The Department offers a program leading to the degree of Master of Arts in Communication Studies. Students develop a course of study with a concentration in either Communication or Communication Disorders.

Communication Concentration

Students selecting this graduate-level concentration pursue an advanced course of applied and theoretical studies in interpersonal relationships, small group communication, organizational communication, public speaking, and debate. The Communication concentration is designed primarily to prepare students for research, further graduate study, and professional development in such fields as administration, management, and human services. An undergraduate major in one of the disciplines within the scope of the Liberal Arts and Sciences is normally required for admission to this concentration. However, those who have training in other areas may request an interview with the Department of Speech Communication, Theatre Arts, and Communication Disorders.

All accepted students must enroll under the direction of their advisor in GS 501 Graduate Program Planning, which is described in the Graduate School section of this catalogue. Degree requirements include six credits of departmental requirements (CC 505 and CC 506), a minimum of eighteen credits in departmental electives which are appropriate to the degree and have been approved by the student's advisor, and a six-credit thesis program. A minimum of thirty approved graduate credits is required for graduation. Additional information regarding the M.A. degree is provided in the Graduate School section of this catalogue.

Communication Disorders Concentration

The graduate-level concentration in Communication Disorders is designed to meet the course work and practicum standards for certification of the American Speech, Language, and Hearing Association. This program of study prepares the student for a professional career in speech pathology. For detailed information regarding ASHA certification standards, students should contact the Department.

Prerequisites required for admission:

Successful completion of the following courses or their equivalent:

CD 220 Introduction to Communication Disorders
CD 281 Speech Anatomy and Physiology
CD 291 Phonetics
CD 292 Language Acquisition and Development
CD 330 Speech and Hearing Science
CD 340 Introduction to Audiology
CD 310 Articulation Disorders
CD 322 Language Disorders in Children

If a person applying to the program does not have a communication disorders background or has not taken the following courses for undergraduate credit, the following courses must be taken and can be taken for either undergraduate or graduate credit prior to completion of the degree program. However, if the student desires to obtain graduate credit, the student must obtain permission of the instructor within the first week of class and determine what additional quantitative or qualitative requirements must be fulfilled to earn this credit. These courses are:

CD 325 Voice Disorders in Children and Adults
CD 341 Clinical Audiology
CD 393 Aural Rehabilitation
CD 456 Diagnosis and Evaluation of Communication Disorders
CD 495 Intervention Strategies in Communication Disorders

All accepted students must enroll under the direction of their advisor in GS 501 Graduate Program Planning, which is described in the Graduate School section of this catalogue. Credit requirements for this concentration (minimum of 37) include:

CD 557 Introduction to Stuttering Theory and Therapy
CD 558 Aphasia in Adults
CD 590 Nonverbal and Augmentative Communication Systems

CD 593 Cleft Palate and Orofacial Anomalies

Choice of:

CD 520 Pediatric Audiology
or
CD 540 Advanced Audiology
or
CD 341 Clinical Audiology (if taken for graduate credit)
CD 552 Neurogenic Communication Disorders
CD 596-597 Graduate Clinical Practicum I-II and CD 440 Clinical Practicum: Audiology for a minimum of six credits (Practicum requiring 300 hours as defined by ASHA)
CD/CC 505 Communication Theories Overview
CD/CC 506 Communication Research Methods Overview
CD 502 Research or CD 503 Directed Study: student must enroll for 2-6 hours for thesis or file papers (library research)
One elective

Master of Arts in Teaching (Speech Communication and Theatre)

The Department offers a program leading to the degree of Master of Arts in Teaching. This program is designed primarily to meet the varied needs of graduate students who are currently teaching communication and/or theatre. A diverse and appropriate program of study is ensured when the student works closely with the advisor in course selection. All accepted students must enroll under the direction of their advisor in GS 501 Graduate Program Planning, which is described under "Graduate Advisors and Program Planning" in the Graduate School section of this catalogue.

Speech Communication and Theatre Arts courses may also be taken in the Division's Master of Arts in Teaching and CAGS programs in Creative Arts. More detailed information regarding these programs may be found under the Division of Humanities and Creative Arts as well as in the Graduate School section of this catalogue.

The following two undergraduate level courses are prerequisites for the graduate course work offered by the department: CC 130 Human Communication Skills and CT 115 Play Production. Additional undergraduate prerequisites in other departments may be required.

The departmental offerings listed below include the following courses which may not be taken for graduate credit:

- CC courses below the 300 level
- CC 499 Directed Study in Communication
- CD courses below the 300 level
- CD 310 Articulation Disorders
- CD 322 Language Disorders in Children
- CD 330 Speech and Hearing Science
- CD 340 Introduction to Audiology
- CD 496 Clinical Practicum I: Communication Disorders
- CD 497 Clinical Practicum II: Communication Disorders
- CD 499 Directed Study in Communication Disorders
- CT courses below the 300 level
- CT 498 Internship in Theatre
- CT 499 Directed Study in Theatre



Course Offerings*

Speech Communication

‡CC 110 Forensics Practicum (1 cr.)

Credit is given for sixty or more hours of intercollegiate debate and competitive speaking at intercollegiate tournaments. Maximum of 3 credit hours to be used toward a major or minor in Speech Communication. *Either semester*

CC 130 Human Communication Skills (3 crs.)

This course is designed to foster competence and improve performance in all areas of communication. Through participative learning, the student will demonstrate those skills necessary to communicate effectively in interpersonal, group and public communication situations. Formerly CC 200. Satisfies the GER in Speaking. *Either semester*

CC 210 Voice and Diction (3 crs.)

Analysis of each student's habits of respiration, phonation, and articulation; exercises designed to correct poor habits. Physics and physiology of the vocal mechanism. Training in perception, differentiation, and production of the standard sounds of good American speech. *Either semester*

CC 215 Speech for Radio and Television (3 crs.)

Study and practice of effective vocal styles and techniques, utilized for different types of mass communication messages including commercials, editorials, newscasts, and interviews. (*Prerequisite: CC 210 or consent of the Instructor*) *Either semester*

CC 250 Public Speaking (3 crs.)

Study, evaluation and analysis of speech preparation with frequent practice of various speech types. Informative, persuasive, and special occasion topics emphasized. *Either semester*

CC 260 Group Communication and Decision-Making (3 crs.)

Extends theoretical knowledge of small group behavior. Stress will be on implementation of theories in such areas as leadership, roles of group members, conflict management, reasoning, argument and problem solving. *Either semester*

CC 270 Interpersonal Communication (3 crs.)

The description and analysis of interpersonal interaction and human relationships as they occur in everyday settings from a non-psychological perspective. Formerly CC 363. *Fall semester*

CC 300 Developing Creativity (3 crs.)

The purpose of this course is to increase the degree to which students recognize and nurture their creative potential, especially in sensing and meeting problems and challenges in all aspects of their academic and personal lives. *Either semester*

CC 301 Managing Messages: Introduction to Public Relations (3 crs.)

This course provides the student with a knowledge of the history, goals, objectives and skills associated with the field of public relations. It offers students an opportunity to utilize acquired communication skills in a specific career area as well as giving students the opportunity to acquire writing, reasoning, listening, speaking and other skills required in public relations work. Case study analysis and hands-on applications are primary teaching/learning methodologies. (*Prerequisite: CC 200*) *Fall semester*

CC 302 Interpersonal Conflict Resolution (3 crs.)

This course introduces the theory, research and practice associated with interpersonal conflict resolution. Students seeking careers in public relations, sales, business, organizational development and advocacy will benefit from this analysis of communication processes. *Fall semester*

CC 305 Advanced Public Speaking Laboratory

After advanced individual work in speech composition and delivery, the student will be required to prepare a variety of speech types for inter-collegiate competition. (*Prerequisites: CC 110 and CC 250*)

CC 310 Critical Approaches to Television (3 crs.)

Television as a medium of communication in society and in the school. Study of the historical development of broadcasting and the current status of the medium. Active participation in developing skills of performance for use as an educator, civic leader, or professional broadcaster. For juniors and seniors only. (*Prerequisite: CC 215*) *Spring semester*

CC 320 Mass Communication in Society (3 crs.)

A basic introduction to research and theory in mass communication by focusing on major social questions regarding the mass media and examining empirical research relevant to these questions. *Offered alternate years*

CC 330 Business and Professional Communication (3 crs.)

Increases levels of competence in negotiating, interviewing, evaluating, leading and presentational skills. This course stresses abilities needed to attain cooperation and exert influence in corporate and public sector work environments. Formerly CC 255. *Spring semester*

CC 338-339 Honors Tutorial (3 crs. each semester)

Special topics in Speech Communication. Open to All-College and Departmental Honors students. Three hourly meetings weekly, (*Prerequisite; Consent of the Department*) CC 338 *fall semester*, CC 339 *spring semester*

CC 351 Rhetoric and Persuasion (3 crs.)

The study of theories of rhetoric and persuasion from the classical theorists to the contemporary and the application of rhetorical criticism techniques. (*Prerequisite: CC 250*) *Either semester*

CC 360 Argumentation and Debate (3 crs.)

Study and practice of analysis, research, and refutation of debate cases using a variety of formats. *Spring semester*

CC 365 Introduction to Intercultural Communication (3 crs.)

Introduction to Intercultural Communication is a course designed to acquaint students with the factors which affect interpersonal relationships among people of differing cultural backgrounds. Foreign as well as native-born persons are encouraged to take the course. ~~Course objectives are to enable students to become more sensitive to and~~ tolerant of values and ideas expressed by others. *Spring semester*

‡Note: From the one-credit co-curricular activities, CC 110, CT 140, and CT 170, and from any and all co-curricular activities for which the College grants credit, a student may accumulate not more than one credit per semester (two per year) nor more than six per four-year degree program.

*See pages 66-67 for general information regarding course offerings.

CC 391 Public Relations Seminar (3 crs.)

This course is designed to provide students with the opportunity to integrate their communication skills through supervised application of these skills in a public relations setting. Using a 30 hour required field experience as a focal point, students will utilize research, organizational thinking, writing and speaking skills throughout the semester. *Offered alternate years.*

CC 399 Topical Studies (3 crs.)

Variable contemporary topics in communication. *Either semester*

CC 400 Creative Techniques for Teaching (3 crs.)

Story telling, creative dramatics, role playing, puppets and masks, and other speech arts, and their practical application in teaching various subjects. *(Prerequisite: CC 200) Either semester*

CC 450 Communicative Theory (3 crs.)

An introduction to the nature and role of theories in understanding human communication and an exploration of various current communication theories and perspectives. Special attention will be paid to the practical and social consequences of accepting any theory. Not open to freshmen except by special permission of the Department. *(Prerequisite: CC 200, 210, 250, 260, 351) Either semester*

CC 452 Organizational Communication (3 crs.)

Analysis of communication problems in modern complex organizations, theory and practice. *(Prerequisite: CC 200, 250 or 260) Spring semester*

CC 462 Patterns of International Communication (3 crs.)

A study of communication systems throughout the world. Students will focus on media as it functions within a variety of political systems. *(Prerequisite: CC 200, CC 351, CC 320 or consent of the Instructor) Spring semester*

CC 485 Honors Thesis (3 crs.)

This course is open to All-College and Departmental Honors students. One-hour weekly meetings with the thesis director will culminate in an honors thesis. With the consent of the Departmental Honors Committee and the thesis director this course may be extended into a second semester for three additional credits depending upon the scope of the project. Whether the final version of the thesis qualifies the student to graduate with honors will be determined by the Departmental Honors Committee. *Either semester*

CC 495 Seminar in Communication (3 crs.)

Study and application of research methods in the area of Communication Arts & Sciences, with particular emphasis on the individual student's interests in the discipline. *(Prerequisite: CC 450) Either semester*

CC 498 Internship in Communication (3-15 crs.)

A non-classroom experience designed for a limited number of junior and senior majors to complement their academic preparation. *(Prerequisite: Consent of the Department Chairperson) Either semester*

CC 499 Directed Study in Communication (1-3 crs.)

Open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. *(Prerequisite: Consent of the Department) Either semester*

CC 502 Research (credit to be arranged)

Original research undertaken by the graduate student in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

CC 503 Directed Study (credit to be arranged)

Designed for the graduate student who desires to study selected topics in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

CC 504 Communication Skills Overview (3 crs.)

This course is designed to provide students an opportunity to review their basic communication skills at all major levels and, with the assistance of the instructor, to diagnose particular areas of strength and weakness to be reinforced or improved upon in subsequent graduate school courses. *(Prerequisite: CC 200 or equivalent)*

CC 505 Communication Theories Overview (3 crs.)

This course is designed to provide students with information concerning current developments in the field of communication theory and a basis for the generation of thesis research problems. Theoretical formulations in the areas of general semantics, rhetoric, interpersonal communication, intercultural communication, group dynamics and persuasion will be included. *(Prerequisite: CC 450 or equivalent)*

CC 506 Communication Research Methods Overview (3 crs.)

This course is designed to provide students with the tools necessary to create meaningful and competent thesis, research, and project plans. Quantitative and nonquantitative research are covered, as well as project creation. *(Prerequisite: CC 495 or equivalent)*

CC 507 Speech Communication Education: Teaching Human Communication Courses in the College and University (3 crs.)

This course provides an analysis of current objectives, problems, and methods of teaching communication at the college level. Selection and preparation of teaching materials will be discussed. Evaluation techniques will be introduced and critiqued. Methods of relating speech to other subject areas will be explored.

CC 508 Classical and Medieval Rhetoric (3 crs.)

The course examines the traditions of rhetorical theory of antiquity. Students will analyze the evolution of rhetorical theory from the Sophists through the Medieval Rhetoricians, comparing and contrasting their perceptions of rhetorical principles and practices. *(Prerequisite: CC 351 or consent of Instructor)*

CC 511 Laboratory in Interpersonal Communication (3 crs.)

This course provides an extensive examination, diagnosis, and treatment of interpersonal communicative behavior of the individual. Emphasis is on the development and enrichment of interpersonal communicative skills and on theoretical perspectives for analyzing the structure of interpersonal communication. Interpersonal communication structures to be studied include communication as a ritual, role, game, personal strategy and a striving for intimacy.

CC 512 Public Communication (3 crs.)

An introduction to the methods of rhetorical research and historical critical inquiry as applied to the study of movement, issues, and speeches.

CC 513 Laboratory in Small Group Communication (3 crs.)

Extensive and intensive experience in small group communication focusing on group participation and leadership. Emphasis will be placed on the transmission, analysis, and processing of messages, and on the roles and functions of group membership.

CC 514 Coaching and Directing Forensics (3 crs.)

A study of the philosophies, problems, and techniques associated with forensic activities; recent trends and practices in co-curricular programs; critical evaluation of related research.

CC 515 Male/Female Communication (3 crs.)

A study of the gender variable in communication in four areas. 1) intrapersonal communication--socialization and self concept; 2) interpersonal relations between the sexes; 3) communication in structured groups; and 4) public communication--male and female orators.

CC 516 Seminar in Intercultural Communication (3 crs.)

Analysis and comparison of communicative styles in different cultures. Investigation of differences in messages, communicative forms, target persons, defensive styles, and interpersonal processes of establishing, developing, and terminating relationships.

CC 520 Group Leadership (3 crs.)

This course focuses on responsibilities, theories, and practices associated with group leadership.

CC 525 Seminar in Mass Communication (3 crs.)

Examination of the audience of mass communication in terms of the uses and gratifications theories. *(Prerequisite: CC 486 or equivalent)*

CC 530 Problems in Organization Communication: Diagnosis and Treatment (3 crs.)

Analysis and treatment of specific common problems and communication breakdown and information overload in organizational structures. *(Prerequisite: CC 452 or equivalent)*

CC 535 Seminar in Communication Theory (3 crs.)

This course explores major communicative theories in depth.

CC 540 Scholarship and Criticism in Communication Studies (3 crs.)

The study of current scholarship and criticism in communication and rhetoric. Students will do library research, prepare written work for criticism and critique the work of others. Presentations will be written and oral. Work will conclude with a scholarly research paper. *(Prerequisite: CC 505)*

Communication Disorders

CD 220 Introduction to Communication Disorders (3 crs.)

An introduction to speech, language and hearing disorders in children and adults. Disorders of functional, structural and neurological etiologies will be discussed. *Either semester*

CD 242 Sign Language I (3 crs.)

History and development of manual communication. Focus on American Sign Language and exact English through vocabulary development and beginning conversational skills. *Fall semester*

CD 243 Sign Language II (3 crs.)

A more advanced course in sign language with an emphasis on conversational skills and interpretation. *(Prerequisite: CD 242) Spring semester*

CD 281 Speech Anatomy and Physiology (3 crs.)

Introduction to the study of the anatomy and physiology of systems involved in speech, language, and hearing, and their relationships to disorders of communication. *Fall semester*

CD 291 Phonetics (3 crs.)

Analysis and transcription of speech sound systems. *Spring semester*

CD 292 Language Acquisition and Development (3 crs.)

Interrelationships among linguistic neurophysiological, physical, intellectual, social, and cultural factors as they affect language acquisition in the child. Analysis of language development will be undertaken by students. *Either semester*

CD 310 Articulation Disorders (3 crs.)

Study of abnormal and normal phonological development using approaches such as distinctive feature theory, phonological process analysis, assessment and therapy procedures. *(Prerequisite: CC 210, CD 220, CD 281, CD 291, CD 292) Fall semester*

CD 322 Language Disorders in Children (3 crs.)

Etiology, diagnosis, evaluation and treatment of language-impaired children. Clinical case material will be discussed and analyzed. Both habilitative and rehabilitative procedures will be covered. *(Prerequisite: CD 291, CD 292) Spring semester*

CD 325 Voice Disorders in Children and Adults (3 crs.)

An introduction to etiology, diagnosis, and remediation of voice disorders and associated pathological conditions. *(Prerequisite: CD 220, CD 281, CD 291) Spring semester*

CD 330 Speech and Hearing Science (3 crs.)

An introductory course as it relates to normal aspects of speech, hearing, and language. Physiological elements of speech production, speech acoustics, auditory physiology and the psychophysics of sound reception. *(Prerequisite: CD 281, CD 291) Spring semester*

CD 335 Communication Problems Among the Elderly (3 crs.)

A survey of communication problems found among the elderly population including neurologically based speech and language disorders, disorders related to cancer, and auditory problems. Intervention options will be discussed. *Offered alternate years.*

CD 338-339 Honors Tutorial (3 crs. each semester)

Special topics in Communication Disorders. Open to All-College and Departmental Honors students. Three hourly meetings weekly. *(Prerequisite: Consent of the Department) CD 338 Fall semester, CD 339 Spring semester*

CD 340 Introduction to Audiology (3 crs.)

Science of hearing; transmission and measurement of sound to the human ear, anatomy, physiology, and neurology of hearing mechanism. Related pathological conditions will be discussed. *(Prerequisite: CD 281, CD 291) Fall semester*

CD 341 Clinical Audiology (3 crs.)

Study of the measurement of hearing including basic tests as well as tests used for differential diagnosis of auditory disorders. Two lecture periods and one two-hour laboratory period weekly. *(Prerequisite: CD 340) Spring semester*

CD 393 Aural Rehabilitation (3 crs.)

Habilitation and rehabilitation for the hard of hearing including assessment and therapy procedures related to auditory training, speech reading, language therapy, and hearing aid training. Educational management and counseling strategies will also be addressed. *(Prerequisite: CD 340) Fall semester*

CD 399 Topical Studies (3 crs.)

Variable contemporary topics in communication disorders. *Spring semester*

CD 440 Clinical Practicum: Audiology (1-3 crs.)

This course provides clinical experience in audiology. Clinical hours obtained can be credited toward A.S.H.A. hours. Activities will include hearing screening and diagnostic testing in various settings. The course may be repeated once. *(Prerequisite: CD 341, a cumulative QPA of 2.5 in Communication Disorders courses, and consent of the Department) Either semester*

CD 456 Diagnosis and Evaluation of Communication Disorders (3 crs.)

Objective of the course is to give the pre-practicum student understanding and skills in assessment and diagnosis of speech and language disorders in children and adults. CD 456 and CD 495 are taken in the fall semester of the senior year by all students who elect the state certification track. These courses may be taken by other Communication Disorders students only with the consent of the Instructor. *(Prerequisite: All required courses in the major as well as the following courses for certification must be completed: CD 310, CD 322, CD 330, CD 393; EN 323, and EN 440; PY 224, PY 226, PY 327) Fall semester*

CD 485 Honors Thesis

This course is open to All-College and Departmental Honors students. One-hour weekly meetings with the thesis director will culminate in an honors thesis. With the consent of the Departmental Honors Committee and the thesis director, this course may be extended into a second semester for three additional credits depending upon the scope of the project. Whether the final version of the thesis qualifies the student to graduate with honors will be determined by the Departmental Honors Committee. *Either semester*

CD 495 Intervention Strategies in Communication Disorders (3 crs.)

Intervention strategies for children and adults having speech, language, voice, rhythm, hearing and associated problems that interfere with communication. CD 456 and CD 495 are taken in the fall semester of the senior year by all students who elect the state certification track. These courses may be taken by other Communication Disorders students only with the consent of the Instructor. *(Prerequisite: All required courses in the major as well as the following courses for certification must be completed - CD 310, CD 322, CD 330, CD 393; EN 323, and EN 440; PY 224, PY 226, PY 327) Fall semester*

CD 496 Clinical Practicum I: Communication Disorders (6 crs.)

Clinical experience in speech pathology or audiology. Clinical hours obtained can be credited toward required A.S.H.A. hours. Placements are varied and include hospital clinics, community health agencies and public schools. Application must be made by March 15 of the junior year. *(Prerequisite: 2.5 cum in the major and consent of the Department) Fall semester*

CD 497 Clinical Practicum II: Communication Disorders (6 crs.)

The second semester of Practicum - clinical experience in speech pathology satisfying the 300 clock hour requirement for state certification as a teacher of children with speech, language and hearing disorders. (Clinical hours in some categories can also be credited toward 150 undergraduate hours for A.S.H.A.). Clinical Practicum I is offered only in the fall semester and Clinical Practicum II is offered only in the spring semester. *(Prerequisite: CD 456, 495, 496 and consent of the Department; CD 496 must be completed with a B or better; QPA of 2.5 in Communication Disorders courses) Spring semester*

CD 499 Directed Study in Communication Disorders (1-3 crs.)

Open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. *(Prerequisite: Consent of the Department) Either semester*

CD 502 Research (credit to be arranged)

Original research undertaken by the graduate student in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

CD 503 Directed Study (credit to be arranged)

Designed for the graduate student who desires to study selected topics in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

CD 520 Pediatric Audiology (3 crs.)

Assessment and clinical management of children with hearing disorders. Etiological factors; problems of screening and differential diagnosis, conditioning and electrophysiological methods. *(Prerequisite: CD 340, CD 393)*

CD 540 Advanced Audiology (3 crs.)

After reviewing the function of the normal and abnormal auditory system, emphasis will be placed on current audiological methods of assessing normal and abnormal hearing. Implications of various types of hearing loss on communication abilities will be discussed. *(Prerequisite: CD 341, or equivalent and consent of graduate advisor)*

CD 552 Neurogenic Communication Disorders (3 crs.)

Consideration of neuropathologies, assessment and intervention for communicative disorders of neurogenic origin. Includes the dysarthrias, apraxia of speech, language of confusion and generalized intellectual impairment, and management of individuals with traumatic closed head injuries. Also includes treatment of dysphagia of neurogenic origin. *(Prerequisite: CD 281, CD 292, CD 322)*

CD 553 Language Disorders in Older Children (3 crs.)

Emphasis concerns review of later stages of language acquisition, description and management of semantic, syntactic, and pragmatic language disorders in the older child. *(Prerequisites: CD 292, CD 322)*

CD 557 Introduction to Stuttering Theory and Therapy (3 crs.)

A survey of stuttering theories and descriptive and intervention techniques. *(Prerequisite: CD 220)*

CD 558 Aphasia in Adults (3 crs.)

Consideration of neuroanatomy, etiologies, characteristic language speech disorders, psychological correlates, classification systems, and diagnostic and rehabilitation procedures. *(Prerequisite: CD 220, CD 330)*

CD 590 Nonverbal and Augmentative Communication Systems (3 crs.)

The course will address theoretical and pragmatic issues in client assessment, augmentative system selection and therapy procedures for implementation. A variety of nonverbal and augmentative communication systems will be reviewed including manual and computer assisted orthographic, word unit and compound systems.

CD 593 Cleft Palate and Orofacial Anomalies (3 crs.)

Embryology, etiology, diagnostic and intervention considerations in cleft lip and palate as well as associated oro-facial anomalies. (*Prerequisite: Consent of the Instructor*)

CD 595 Advanced Assessment and Interpretation of Communication Disorders

Advanced diagnostic procedures appropriate to neurophysiological, and psychologically-based disorders of communication. (*Prerequisite: CD 456, CD 496, CD 497*)

CD 596 Graduate Clinical Practicum I (1-6 crs.)

Advanced practicum in clinical settings with a focus on communication disorders in children and adults. (*Prerequisite: CD 496, CD 497*)

CD 597 Graduate Clinical Practicum II (1-6 crs.)

Advanced practicum in clinical settings with a focus on communication disorders in children and adults. (*Prerequisite: CD 596*)

CD 599 Topical Studies in Communication Disorders (3 crs.)

Variable topics, issues and contemporary research in Speech Pathology and Audiology. (*Prerequisite: Consent of the Instructor*)



Theatre Arts

A student majoring in Theatre Arts will be required to complete 4 semester hours of Practicum (CT 140 and CT 170) of which a minimum of 2 semester hours must be in CT 170.

CT 110 Theatre Appreciation (3 crs.)

This course introduces the student to the roles of theatre artists, the special nature of live theatrical performances, the art of theatre as an expression of human experience and to the richness and variety of the heritage of the theatre. Theatre attendance is required. This course is suitable for students from a variety of majors other than Theatre seeking a basic knowledge of theatre. Formerly CT 240. Satisfies the GER in Artistic Modes of Expression.

CT 115 Play Production (3 crs.)

This course introduces the student to the processes involved in the creation of theatre art. The student develops an understanding of the aesthetics and conventions of the theatrical event through observation and structured applied experience in the basic practices involved in planning and performing the theatrical event. Attendance at a theatre performance is assigned. Formerly CT 250. Satisfies the GER in Artistic Modes of Expression. Fall semester

†CT 140 Theatre Performance Practicum (1 cr.)

Credit is given for sixty (60) or more hours per semester of rehearsal and performance time in a major production. Formerly CT 130. *Either semester*

CT 146 Dance Appreciation (3 crs.)

This course explores the basic components of dance and enables students to appreciate the art of dance as an informed audience and as participants in its rich variety. Satisfies the GER in Artistic Modes of Expression.

***CT/PE 155 Creative Dance Group (1 cr.)**

Open to all students who enjoy composing and performing dances. Several programs are given each year. One three-hour meeting each week, plus additional periods of performance time. Formerly CT/PE 180. *Spring semester*

CT 156 Movement and Dance for Actors (3 crs.)

The exploration of Force, the dramatic element of movement in Dance and Drama. Dance in relation to the spatial environment, lighting, vocal and instrumental sound, costuming and masks. Formerly CT 290. *Spring semester*

CT 160 Stage Make-up (1 cr.)

Study and practice in the art of straight and character make-up for stage, television, and film. Two contact hours per week twice weekly. Formerly CT 271. *Fall semester*

†CT 170 Technical Theatre Practicum (1 cr.)

Credit is given for 60 or more hours per semester of technical work on a major production. (Two of the required 4 credit hours must be earned in CT 131). Formerly CT 131. *Either semester*

CT 175 Design Techniques for the Stage (3 crs.)

This studio course develops the skills and techniques of visual communication of design ideas and explores period styles and furnishings. The course focuses on basic drafting, sketching, and drawing, watercolor rendering, and period research. (Meets 4½ hours weekly.) *Offered alternate years, fall semester*

**Offered for credit for both the Speech Communication, Theatre Arts and Communication Disorders and the Health, Physical Education and Recreation Departments.*

CT 210 Theatre Management Practicum (1 cr.)

Credit is given for 60 or more hours per semester of work in audience development, publicity, box office, and house management activity in connection with departmental productions. *Either semester*

CT 220 Play Analysis for Production (3 crs.)

The objective of the course is to train theatre artists in methods of play analysis for production which can be applied to diverse periods and styles. The works explored will range through early Greek, Elizabethan, Restoration and Georgian, Neoclassicism, Realism, Expressionism, and Theatre of the Absurd. *(Prerequisite: CT 110 or CT 115) Fall semester*

CT 222 Asian Theatre (3 crs.)

This course introduces the theatre of several Oriental cultures and their aesthetic foundations in ritual and myth. Included are Sanskrit, Chinese, Japanese and other Asiatic traditions. Satisfies the GER in Artistic Modes of Expression. *Spring semester*

CT 230 Creative Dramatics (3 crs.)

Development of the child's creative faculties through the use of dramatic play in laboratory sessions as well as classroom activity. Formerly CT 330. *Offered alternate years*

***CT/PE 255 Creative Dance I (3 crs.)**

The study of dance as the Art of Movement. Included are basic exercise, individual and group dance based on polarities of force, impulse, time, space, vocal and instrumental sound. Formerly CT/PE 226. *Offered alternate years, Fall semester*

***CT/PE 256 Creative Dance II (3 crs.)**

Study of impulse, design, metric patterns, dynamic qualities of dance, accompaniment and elements of performance through improvisation and composition. Emphasis will be on increased artistry in the development and presentation of individual and group dances. Formerly CT/PE 325. *(Prerequisite: CT 255) Offered alternate years*

CT/PE 259 Dance Repertory (1 cr.)

Students will be taught a major choreographic work by faculty and/or guest artists. *Spring semester*

CT 265 Stage Costuming (3 crs.)

This course will cover principles and techniques of costuming for the stage, including design and construction of costumes and organization of costuming for theatrical production. A laboratory is required. *Offered alternate years, Fall semester*

CT 272 Stagecraft (3 crs.)

Theory and practice of technical theatre with emphasis on planning the production. Study and practice in stage management, set construction, costuming, properties, make-up, and sound. Formerly CT 380. *(Prerequisite: CT 115)*

CT 278 Scene Design (3 crs.)

Theory and practice of designing for stage productions. Formerly CT 373. *(Prerequisite: CT 115)*

CT 280 Theatre Management (3 crs.)

Study of the commercial aspects of theatrical production: publicity, programs, financing, ticket sales and house management. *(Prerequisite: CT 115) Formerly CT 373. Offered alternate years, fall semester*

CT 282 Community Theatre (3 crs.)

Trends, organization, and practices of local and regional theatrical groups. Formerly CT 270. *Offered alternate years, Fall semester*

†Note: From the one-credit co-curricular activities, CC 110, CT 140, and CT 170, and from any and all co-curricular activities for which the College grants credit, a student may accumulate not more than one credit per semester (two per year) nor more than six per four-year degree program.

CT 310 Oral Interpretation (3 crs.)

Oral reading of selected prose, poetry and drama: individual and group forms. Theory and practice. *(Prerequisite: CC 210)*

CT 332 Principles of Directing (3 crs.)

Basic knowledge and techniques for the beginning director. Play analysis, composition, movement, characterization and rehearsal. Formerly CT 395. *(Prerequisite: CT 115, CT 390 or consent of the Instructor) Fall semester*

CT 336 The American Musical Theatre (3 crs.)

Major trends in the evolution of the American Musical Theatre from its origin to the contemporary Broadway musical. Examination of major works of leading composers, librettists, performers, producers, and choreographers. *Offered alternate years*

CT 338-339 Honors Tutorial (3 crs. each semester)

Special topics in Theatre Arts. Open to All-College and Departmental Honors students. Three hourly meetings weekly. *(Prerequisite: consent of the Department) CT 338 fall semester, CT 339 spring semester.*

CT 341 Improvisational Acting (3 crs.)

Development of the student's capabilities in interpreting his awareness of life through concentration, imagination, and observation. Formerly CT 392.

CT 347 Laboratory Theatre Production (3 crs.)

Analysis and practice in selection of playscripts, acting and directing techniques in rehearsal, culminating in the performance of a production. Entrance to the course will be by audition or interview. May be taken twice for credit. Formerly CT 344. *Fall semester*

CT 349 Comedy on Stage (3 crs.)

Analysis and practice of theatrical comedy, including techniques appropriate to the interpretation and presentation of humorous dramatic scenes in the classroom. Formerly CT 415. *(Prerequisite: CT 115, CT 390 or consent of the Instructor) Offered alternate years, Spring semester*

***CT/PE 352 Dance History (3 crs.)**

Examination of dance from an historical perspective: movement, themes, composition, and accompaniment as expressive of specific cultures with emphasis on the western world. Recreation of individual and group dances from selected historical periods. *Offered once in three years.*

CT 353 Creative Dance for Children (3 crs.)

The study and experience of Dance as a creative art activity for children. For those planning to work with children in schools, camps, community centers, or enrichment programs. Formerly CT 320. *(Prerequisite: One three credit dance course or consent of the Instructor) Offered alternate years*

***CT/PE 357 Dance Production Theory (2 crs.)**

This course provides the opportunity to choreograph and plan the presentation of a major dance work. Lectures and practical assignments in choreography and stagecraft for dance will result in a plan for a dance piece. *(Prerequisite: CT/PE 226 and CT/PE 325, or permission of the Instructor.) Fall semester*

***CT/PE 358 Dance Production Techniques (1 cr.)**

This course is an extension of CT/PE 357, Dance Production Theory, and provides an opportunity for students to set a choreographed work for dancers and to rehearse it for presentation. *Spring semester*

CT 372 Advanced Stagecraft (3 crs.)

This course presents advanced principles and techniques of employing specialized materials and processes in preparing scenery and properties for the stage. A laboratory is required. *(Prerequisite: CT 380) Offered alternate years, fall semester*

CT 376 Stage Lighting (3 crs.)

Materials and techniques fundamental to contemporary stage lighting; analysis of the principles of design as they relate to contemporary theatre production. Formerly CT 385. *Offered alternate years, spring semester*

CT 390 Principles of Acting (3 crs.)

Development of appreciation and basic skills in the fundamentals of acting. Exercises, improvisations, and scenes. *(Prerequisite: CT 115) Fall semester*

CT 391 Advanced Acting (3 crs.)

Advanced problems and projects; intensive scene analysis and introduction to styles of acting. *(Prerequisite: CT 115, CT 390 or consent of the Instructor) Offered alternate years, Fall semester*

CT 399 Topical Studies (3 crs.)

Variable contemporary topics in theatre. *Either semester*

CT 420 Children's Theatre (3 crs.)

Theatre for the child audience. Theories applied by assuming responsibility for the production of a play for children on campus and in area schools. *(Prerequisite: CT 115) Spring semester*

CT 421 Theatre History I (3 crs.)

Trends in dramatic and theatrical developments throughout the western world from Ancient Greece to the 17th century. Not open to freshmen except by special permission of the Department. Formerly CT 431. *Fall semester*

CT 422 Theatre History II (3 crs.)

Trends in dramatic and theatrical developments throughout the western world from the 17th century to the present. Not open to freshmen except by special permission of the Department. Formerly CT 432. *Spring semester*

CT 430 Playwriting (3 crs.)

Appreciation of the nature of the play as an art form. Analysis of plays of various types. Practice in writing. Formerly CT 470.

CT 435 Period Styles of Theatrical Productions (3 crs.)

Analysis and practice of the staging methods and styles of selected historical periods which are considered classic in the development of theatre, such as: styles appropriate to the works of Sophocles, Plautus, Shakespeare, and Moliere. *(Prerequisite: CT 390 or CT 332 or consent of the Instructor)*

CT 485 Honors Thesis (3 crs.)

This course is open to All-College and Departmental Honors students. One-hour weekly meetings with the thesis director will culminate in an honors thesis. With the consent of the Departmental Honors Committee and the thesis director, this course may be extended into a second semester for three additional credits depending upon the scope of the project. Whether the final version of the thesis qualifies the student to graduate with honors will be determined by the Departmental Honors Committee. *Either semester*

CT 495 Seminar in Contemporary Theatre (3 crs.)

This is a required capstone course for students graduating with a concentration in theatre. The course deals with issues in contemporary theatre and practical matters surrounding careers in theatre. Recital, portfolio, or thesis is required. *(Prerequisite: Senior standing, theatre concentration) Fall semester*

CT 498 Internship in Theatre (3-15 crs.)

A non-classroom experience designed for a limited number of junior and senior majors to complement their academic preparation. *(Prerequisite: Consent of the Department Chairperson) Either semester*

CT 499 Directed Study in Theatre (1-3 crs.)

Open to juniors and seniors who have demonstrated critical and analytical abilities in their studies and who wish to pursue a project independently. May be taken twice for a maximum of six credits. *(Prerequisite: consent of the Department) Either semester*

Other Approved Courses:

CT 120 Choral Speaking Practicum

CT 351 Movement in the Creative Arts

CT 502 Research (credit to be arranged)

Original research undertaken by the graduate student in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

CT 503 Directed Study (credit to be arranged)

Designed for the graduate student who desires to study selected topics in his field. For details, consult the paragraph entitled "Independent Study" in the Graduate School section of this catalogue.

Introductory College Skills

The courses in Introductory College Skills listed below are designed to strengthen those skills most essential to effective learning, both in college and throughout life. The program is based on the College's commitment to provide students with every opportunity to build upon strengths they have while correcting any deficiencies.

Students may be assigned to a class, or classes, containing these separate components as a result of a review of the students' high school record, SAT scores, and performance on various placement examinations generally given during Freshman Orientation. A student may also request this assistance, which the College is pleased to provide.

The course or courses will be graded on a pass/fail basis and will not be calculated in the student's cumulative quality point average. Students assigned to any component of the course must complete that component successfully before attempting any regular course in that area.

Course Offerings*

FS 100 Introductory College Skills: Intrusive Advising (1 cr.)

A specialized learning/advising program for freshmen offered by the Office of Academic Advising conducted in a small group setting. In this process students are encouraged to explore their learning styles, possible career interests and academic goals in terms of the total college environment in a shared and supportive setting. The credit earned may not be used to satisfy the GER, nor may it be applied toward the minimum number of credits required for graduation in any major. *Either semester*

FS 101 Introductory College Skills: Writing (3 crs.)

This course will consist of an intensive review of basic communication skills, chiefly those of reading and writing. It does not satisfy the composition GER, nor may the credits be applied toward the minimum credits required for graduation by any major. *Either semester*

FS 102 Introductory College Skills: Mathematics (3 crs.)

Fundamental principles of algebra and geometry including: signed numbers, fractions, exponents, equations, inequalities, and problem solving. This course does not satisfy the mathematics GER, nor may the credits be applied toward the minimum credits required for graduation by any major. *Either semester*



*See pages 66-67 for general information regarding course offerings.

Undergraduate, Multidisciplinary and Pre-Professional Programs

American Studies Minor

Designed to complement the student's major, this minor program examines the development of American society and culture from several perspectives. It features a study of the United States through a combination of relevant courses in a variety of academic areas: history, literature, art and architecture, philosophy, religion, political science and others. Through its multidisciplinary focus, the minor encourages an integrated and inclusive sense of the American experience.

The area around Bridgewater is rich in library and museum resources for American Studies. In addition to the holdings of Boston-area colleges and universities, there are the collections of the Massachusetts Historical Society, the Pilgrim Museum, Plimouth Plantation, the Whaling Museum in New Bedford, the Brockton Art Center, the Boston and Providence Athenaeums, the John Carter Brown Library and the Harris Collection at Brown University. Bridgewater itself has the new Microbook Library of American Civilization and the PCMI humanities collection.

A student wishing to pursue a minor in American Studies will ordinarily be assigned an advisor from the American Studies Committee, and will be expected to take the following sequence of courses in the sophomore, junior and senior years:

ID 220 Introduction to American Studies (3 crs.)

Sophomores should enroll in this interdisciplinary course which is the initial course for the minor in American Studies. The course aims to examine from several perspectives one problem or period in the American experience. The topic, to be announced before registration, changes from year to year. Disciplines involved include: English, history, art, philosophy, political science and others.

ID 420 American Studies Seminar (3 crs.)

Interdisciplinary topics, which change from year to year, will be developed in a small group, seminar setting. Juniors and seniors in the program will enroll in this seminar twice, studying two different topics. Total of 6 hours.

ELECTIVE COURSES: In consultation with an American Studies advisor, the student will choose a group of at least **FOUR (4)** additional courses in fields related to the program. Most likely these courses will be spread over the junior and senior years. At least **TWO (2)** of these additional courses must be chosen from disciplines outside the student's major.

For further information, interested students should contact Professors Charles Fanning or Joseph Yokelson of the English Department.

Canadian Studies Minor

The minor has been developed as an area study in response to faculty, student and regional interest. The national origins of a large portion of the population of Southeastern Massachusetts reflect strong Canadian ties from both the French and English communities.

The program is designed to supplement and give a multicultural dimension to one's major by an in-depth study of our northern neighbor. The study is presented in the following academic areas: history, literature (English and French), geography, music, education and political science.

Students may enter the Canadian Studies minor during the sophomore or junior year and will be assigned an advisor in their major fields, usually a member of the College Council for Canadian Studies.

ID 200 An Introduction to Canadian Studies (3 crs.)

An interdisciplinary course which acts as the initial course for the general student and for those wishing to pursue a track in Canadian Studies. The following areas are included: anthropology, art, economics, education, English, French, geography, government, history, music, religion, sociology and theatre. May be repeated for credit. *Spring semester*

In addition to **ID 200, An Introduction to Canadian Studies**, students in the program should select courses from those listed below.

- I. Three courses with one from each area:
 1. Area of literature
EN 283 Major Canadian Writers in English I
EN 284 Major Canadian Writers in English II
LF 261 Introduction to the Civilization and Language of French Canada
 2. Area of history
HI 335 Canadian History to Confederation
HI 336 Canadian History since Confederation
 3. Area of geography or political science
GS 453 Geography of Canada
PO 386 Government of Canada
- II. Two additional courses selected from the following list:
EN 384 Modern Canadian Fiction in English
LF 261 Introduction to the Civilization and Language of French Canada
GS 453 Geography of Canada
HI 335 Canadian History to Confederation
PO 386 Government of Canada
MU 368 Folk Music of Canada
- III. One additional course may be selected from courses in Group III or from the following:
HI 337 History of Canadian-American Relations
LF 211 Twentieth-Century French Canadian Writers
LF 222 Introduction to French-Canadian Literature

Total of 18 credit hours.

Students in the minor are encouraged to have some familiarity with French as their language.

For further details contact Professor John F. Myers of the History Department.

Chemistry-Geology Major

A major in Chemistry-Geology is offered jointly by the Department of Chemical Sciences and the Department of Earth Sciences and Geography. This program is designed to prepare students for graduate school and professional employment in geo-chemistry and geology. Careers in these fields may involve petroleum, mineral and groundwater exploration, or research in geochronology, mineralogy, crystallography and oceanography. This major is particularly suited to students interested in chemical or geological oceanography. The program is flexible in that it allows the student to specialize in a variety of areas by suitable choice of electives.

Chemistry-Geology majors are required to take the following courses: CH 141-142 Inorganic Chemistry with Qualitative Analysis I-II (or CH 131-132 General Chemistry with Qualitative Analysis I-II); ES 100 Physical Geology, ES 101 Historical Geology, ES 372 Mineralogy. In addition to the above requirements, majors must elect a minimum of two additional semesters of chemistry, two semesters of physics, and two semesters of mathematics. In addition to these electives the student must elect a minimum of six hours of chemistry or earth sciences or mathematics or physics which have been approved by the student's advisor.

The Chemistry-Geology major at Bridgewater State College is recognized by the New England Student Regional Program as an undergraduate four-year degree opportunity for residents of New England. Students who are legal residents of Connecticut, Maine, New Hampshire, Rhode Island, and Vermont and are accepted for study in this major will pay only the in-state tuition rate.

Dance Minor

This program is jointly administered by the Health, Physical Education and Recreation Department and the Speech Communication, Theatre Arts and Communication Disorders Department. It is open to all undergraduates. The program provides an exposure to a number of modes of dance with appropriate techniques as well as a theoretical base for understanding dance as an art form and as a means of expression. The program is designed to help students gain an appreciation of dance as art form, educational vehicle and recreational activity and so supplements major work in theatre arts, physical education, music, art, and elementary education.

Courses include:

CT/PE 255 Creative Dance I
CT/PE 256 Creative Dance II
CT/PE 352 Dance History
PE 101 Kinesiology
PE 154 Ballet
CT/PE 155 Creative Dance Group
CT/PE 357 Dance Production Theory
CT/PE 358 Dance Production Techniques

PE 153 Jazz Dance

or

PE 258 Dance Technique

PE 161 Folk Dance

or

PE 164 Square Dance

Linguistics Minor

The linguistics minor is open to all students, but it is especially valuable as a support to majors in anthropology, communication arts and sciences, early childhood education, elementary education, special education, English, foreign languages, philosophy, and psychology.

A minor in linguistics may be earned by selecting eighteen credits from the courses listed below. EN 323 Introduction to Linguistics, is required and should be taken as early in the student's program as possible. Also, students must reach an intermediate competency in a foreign language or take FL 300 Languages of the World.

Psycho-Socio Linguistics

CC 363 Interpreting Communicative Behavior
CC 450 Communicative Theory
CD 442 Dactylogogy (Sign Language)

General Linguistics

EN 324 Linguistic History of the English Language
EN 320 Chaucer
EN 430 Comparative Grammar
EN 435 Semantics
LF 201 French Literature of the Middle Ages
LF 381 Applied French Linguistics and Phonetics
LS 381 The Middle Ages I
PL 405 Philosophy of Language
EN 440 Topics in Linguistics
FL 300 Languages of the World

Applied Linguistics

CD 291 Phonetics
CD 292 Language Acquisition and Development
HU 330 English as a Second Language
PL 240 Rational Thinking

For further details contact Dr. Clifford Wood, Chairperson, Department of English.

Oceanography

The program in oceanography is offered as a cooperative effort of all departments within the Division of Natural Sciences and Mathematics, with the assistance of the staff and facilities of the Woods Hole Oceanographic Institute. This program is designed to prepare students for graduate school or professional employment in oceanography. Bridgewater State College participates in the annual summer Marine Science Program at the Massachusetts Maritime Academy. Summer programs at the Academy allow the student to participate in course work in specialized areas of oceanography, to engage in research and to gain experience in actual field techniques onboard ship. Participation in this program provides the student with the necessary foundation for either further academic work in oceanography or employment in a variety of areas.

Most graduate schools of oceanography require an undergraduate major in biology, chemistry, earth sciences, or physics. All students interested in an oceanography program should major in one of these disciplines. Graduate schools of oceanography expect students to include the following courses in their undergraduate programs: Calculus I and II, Inorganic Chemistry and Qualitative Analysis or General Chemistry, General Physics or Elements of Physics, Quantitative Analysis, General Botany, General Zoology, Physical Geology, and Introduction to Oceanography I and II.

These courses, together with one of the majors indicated above, provide the basic foundation for further study in one of the four principle branches of oceanography, i.e.: biological oceanography, chemical oceanography, geological oceanography, and physical oceanography. Additional courses in related areas may be selected by the student with the approval of his major advisor. A student who is interested in oceanography should consult both his major advisor and one of the oceanography advisors before registering for courses in his freshman year or as soon as possible thereafter. Oceanography advisors are: Dr. Robert Boutilier (Earth Sciences); Dr. Henry Daley (Chemistry); Dr. John Jahoda (Biology).

Pre-Engineering, Pre-Law, Pre-Medical Pre-Dental, Pre-Veterinary

Pre-professional training for students planning to enter engineering, law, medical, dental, or veterinary schools is provided by Bridgewater State College. Such professional schools generally prefer applicants with a strong liberal arts background.

Engineering schools expect prospective students to have demonstrated competency in areas such as mathematics, physics, chemistry, and computer science. Law schools expect applicants to have preparation in areas such as history, political science, economics, plus courses in composition. Students considering medical, dental, or veterinary school are expected to have proficiency in writing and skill in a wide range of laboratory techniques. Courses in biology, chemistry, mathematics, and chemistry ordinarily are required. While some of these schools do not require a specific undergraduate major, students are advised to major in either biology or chemistry. Students who have a major in biology and a major in chemistry (double major) receive excellent preparation for admission to these professional schools.

Students who are interested in engineering should consult with Dr. Richard Calusdian, Department of Physics; students interested in law school should consult with Dr. Jordan Fiore, Department of History; the pre-medical, pre-dental, and pre-veterinary advisor is Dr. Walter Morin (Biology).

Program in Scientific and Technical Illustration

This program is offered as a cooperative effort of the Division of Natural Sciences & Mathematics and the Department of Art. It provides a basis for careers in Scientific & Technical Illustrations. Students interested in this program should major in either Art, one of the Natural Sciences or Mathematics. All students in this program are expected to take the following courses: AR 120 Basic Design, AR 220 Drawing I, AR 230 Painting I, AR 240 Sculpture I, AR 320 Drawing II, AR 499 (1 cr.) Directed Study. Students majoring in Art must minor in one of the Natural Sciences or Mathematics. It is strongly recommended that all students in this program take at least one course in each of the Natural Sciences and Mathematics. In addition to their regular advisors (majors and minors), students are encouraged to consult with members of the Scientific and Technical Illustration Committee. Members of this Committee are Dr. Hugo D'Alarcao and Dr. Stephen Smalley.

Radio & Television Operation and Production Minor

A joint program for a minor in Radio/Television, developed by the Departments of Speech Communication, Theatre Arts, and Communication Disorders and Media and Librarianship, for those students who have an active interest in the areas of Radio and/or Television. The two departments share responsibility in advising students who choose the Radio/Television minor. Practical application of the theories learned in class are an essential element of the program. Courses include:

EN 280 Journalism
CC 210 Voice and Diction
or
CC 215 Speech for Radio and Television
CC 450 Communicative Theory
ME 456 Radio and TV Production I
ME 458 Radio and TV Production II
ME 460 Graphics for Designing Media

ELECTIVE COGNATE COURSES (one course required)

CC 320 Mass Communication in Society
ME 452 Basic Photography
ME 454 Script Writing for Radio, Television and/or Other Media
CC or ME 498 Internship

Interested students should contact the department chairperson for further information.

Russian and East European Studies Minor

A multidisciplinary minor encompassing 18 credit hours to be selected from courses offered in the Departments of English, Foreign Languages, Earth Sciences and Geography, History, and Political Science and Economics. The major purpose of this minor is to provide students with a deeper understanding of the Eastern European Area (including Russia) and its culture.

Each student must achieve proficiency in the Russian Language (up to the intermediate level), but only six credits can be applied to the Area Program - or - any other Slavic language. Each requirement can be met by CLEP.

Three credits of each subject taken within the Slavic Area Studies can also be applied to student's major.

Students participating in the Program are encouraged to go beyond the minimum requirements and take additional General Education Electives in this area.

Additional courses can be taken, with the approval of the Slavic Council, at other Massachusetts State Colleges.

Each student who completes the program will be credited with a minor in the area, and in addition will receive "A Certificate of Completing Area Studies: Slavic."

The requirements for the minor include:

LR 151-152 Intermediate Russian I-II
HI 318 History of East-Central Europe since 1918
or
HI 319 Modern Russia to 1917
or
HI 320 History of the USSR
GS 404 Geography of the USSR

Select two of the following courses:

EC 320 Comparative Economic Systems
PO 371 Comparative Government
PO 383 Comparative Political Systems

For further details contact Dr. Chester Nowak of the History Department.

Urban Affairs Minor

The College offers a multidisciplinary minor in Urban Affairs under the auspices of the Anthropology, Earth Sciences and Geography, History, Political Science and Economics, Psychology, and Sociology Departments. A major purpose of this minor is to provide students with a broader understanding of and sensitivity to the complex problems facing the urban environment through the combined efforts of different disciplines at the College. The minor, through its internship program, is designed to provide students with an opportunity for direct contact and work in fields such as urban planning, urban government, social welfare, social psychology, and urban education.

Some examples of internships which are assigned according to the abilities, interests, and background of the student, and the current needs of the cooperating communities or agencies, are:

Through the Department of Earth Sciences and Geography

City and regional planning; Economic development — Land use; Environmental protection; Transportation studies; Cartography — drafting; Business — bank locations and market studies.

Through the Department of History

Internships working with historical affairs commissions; assisting community organizations in oral history projects, and writing about local history.

Through the Division of Behavioral Sciences

Work in human services agencies; Survey research in public institutions; Work in community organizations and voluntary agencies.

Option A

Students may choose four out of the following six courses:

AN 307 Urban Cultural Dynamics
HI 347 History of the American City
PY 210 Applied Social Psychology
GS 353 Urban Geography
SO 306 Urban Sociology
PO 376 Municipal Government

Internship: (6) credits. (Equal to 8 weeks, full time or 16 weeks half time)

Option B

Students may choose four out of the six courses listed under Option A, plus two courses from the list below:

GE 354 Field Methods in Urban Geography
HI 346 American Labor History
PO 277 State and Local Government
SO 312 Minority Relations
SW 325 Community Organization
499 Directed Study in individual participating departments

Courses taken to satisfy requirements of a major may not be counted in the minor. Students interested in this program are encouraged to take their General Education electives in the area of minority studies.

Students interested in this program should contact:

1. Professor Robert Boutilier, Department of Earth Sciences & Geography
2. Professor Lucille O'Connell, Department of History

Interdisciplinary Course Offerings:

ID 200 Introduction to Canadian Studies (3 crs.)

An interdisciplinary course which acts as the initial course for the general student and for those wishing to pursue a track in Canadian Studies. The following areas are included; anthropology, art, economics, education, English, French, geography, government, history, music, religion, sociology, and theatre. May be repeated for credit. *Spring semester*

ID 220 Introduction to American Studies (3 crs.)

Sophomores should enroll in this interdisciplinary course which is the initial course for the minor in American Studies. The course aims to examine from several perspectives one problem or period in the American experience. The topic, to be announced before registration, changes from year to year. Disciplines involved include: English, history, art, philosophy, political science and others.

ID 230 Introduction to Women's Studies (3 crs.)

An interdisciplinary approach to communicating the experience of being a woman. Through the study of such topics as language, gesture and movement, images, role models, sex roles, gender, biological and cultural conditioning, stereotyping, and discrimination, the course will explore the nature, accomplishment, and promise of women-as they have been seen and as they see themselves.

ID 260 Quantitative Methods in Earth Sciences and Geography (3 crs.)

The application of descriptive and inference statistical methods in dealing with problems or areal associations and spatial intersections in the earth sciences and geography. (*Prerequisite: GE 100 or ES 100, one year or more of mathematics, and consent of the Instructor*) *Spring semester*

ID 420 American Studies Seminar (3 crs.)

Interdisciplinary topics, which change from year to year, will be developed in a small group seminar setting. Juniors and seniors in the program will enroll in this seminar twice, studying two different topics. Total of 6 hours.

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Robert Beauregard
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Lawrence Bentley
Janitor
Richard Bentley
Janitor
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Assistant Chief Power Plant Engineer
Raymond Braddock
Head Janitor
Ronald Brown
Mechanical Handyman

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Carpenter
Robert Burke
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Joseph Cabral
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Christopher Carlozzi
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Thomas Centofanti
Motor Truck Driver
Louise Chiappini
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Tracey Chuckran
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Joseph Garafalo
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Janitor
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Janitor
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Janitor
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 Warren Medeiros
Mechanical Handyman
 Diane Messaline
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Plumber and Steamfitter
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Index

A

Academic Calendar inside front cover
 Academic Policies
 Undergraduate 49
 Graduate 59
 Academic Advising 11
 Academic Programs 42
 Academic Progress 51
 Academic Standing
 Undergraduate 34, 50, 51
 Graduate 59
 Accounting 185
 Accreditation 1
 Administrative and Other College
 Offices 279
 Admissions
 Undergraduate 29
 Graduate 56
 Adult Learner Program 40
 Advanced Placement Examination 34
 Advanced Standing 34
 Alternative Loan Programs 41
 American Studies Minor 273
 Anthropology 246
 Archaeology 246
 Art, Department of 81
 Assistantships, Graduate 41, 61
 Athletics 16-17
 Attendance Policy 51
 Auditing Courses 52
 Aviation Management 189
 Aviation Science 187, 189

B

Bachelor's Degrees 42
 Behavioral Sciences, Division of 68
 Biochemistry 96
 Biological Sciences, Department of 87
 Board of Trustees 278
 Business Programs
 (see Management Science) 184

C

Calendar inside front cover
 Campus 24
 Canadian Studies Minor 273
 CAPS (College Academic
 Program Sharing) 45
 Career Planning and Placement 18
 Certificate of Advanced
 Graduate Study (CAGS) 64
 CAGS in Behavioral Sciences 69
 CAGS in Creative Arts 71
 CAGS in Natural Sciences and
 Mathematics 72
 CAGS in Education 78
 Campus Center 15
 Certificate Programs
 (see Continuing Education Program)
 Change of Major (undergraduate) 52
 Change of Program (graduate) 58
 Chemical Sciences, Department of 95
 Chemistry/Geology 274
 Child Care Center 18
 Chinese 140
 Class Year 51
 CLEP (College Level Examination
 Program) 34, 52
 Clubs and Organizations 16
 College Entrance Examination
 Board Tests 29-30
 Commencement 22, 49, 62
 Commonwealth Transfer Compact 32
 Comprehensive Examination
 (Graduate) 61
 Computer Science 197, 198
 Concentrations 43
 Conduct 53
 Consortia (see Cross-Registration)
 Continuing Education Program 28, 37
 Correspondence
 Directory inside back cover
 Counseling Center 19
 Counseling Program 102
 Course Descriptions 66
 Course Loads
 Undergraduate 50-51
 Graduate 62

Course Numbering System 66
 Credit, Undergraduate and Graduate 60
 Credit, Transfer of
 Undergraduate 53
 Graduate 60
 Cross-Registration 45
 Cultural Organizations 15
 Cumulative Average
 (see QPA) 49-53, 76-77

D

Dance Minor 274
 Data Processing Minor 198
 Dean's List 50
 Declaration of Major 52
 Declaration of Minor 52
 Degree Applications
 Undergraduate 49
 Graduate 62
 Degree Requirements
 Bachelor of Arts 42
 Bachelor of Science 42
 Bachelor of Science in Education 42
 Master of Arts 55, 62
 Master of Arts in Teaching 55, 63
 Master of Education 55, 64
 Master of Science 55, 64
 Directed Study
 Undergraduate 14, 44
 Graduate (see Independent Study)
 Dismissal, Academic
 Undergraduate 51, 53
 Graduate 59
 Divisional Course Offerings
 Behavioral Sciences 69
 Humanities and Creative Arts 71
 Natural Sciences and Mathematics 73
 Professional Education 79
 Social Sciences 80
 Doctoral Program (Collaborative) ... 65, 78
 Double Major 42
 Drama 22, 262
 Drop/Add 51

E

Early Childhood Education	122
Early Decision	31
Earth Sciences and Geography, Department of	107
Economics, Department of	114
Educational Leadership and Administration	116
Elementary and Early Childhood Education	121
Emeritus Faculty	297
Employment Opportunities	41
Energy and Environmental Resources Management	185
Engineering (see Pre-Engineering)	275
English, Department of	132
Enrichment Program	12
Examinations (Graduate) Comprehensive	61
Preliminary	62
Research Proficiency	62

F

Faculty	288
Fees	36, 37
Finance and Accounting	185
Financial Aid	39
Flight Training	184
Food Services	19
Foreign Languages, Department of	138
French	140
Freshman Skills Course Offerings	272

G

General Education Requirements	46
General Management Concentration	185
Geography	108
Geography as a Social Science	113
Geology	109
German	141
Grading System Undergraduate	50
Graduate	59
Graduate Admissions	56
Graduate Advisors and Program Planning	58
Graduate Policies and Procedures	59
Graduate Programs	6, 55
Graduate Program Requirements	62
Graduate Record Examination	57
Graduate School Office	54, 59
Graduate School Tuition and Fees	37
Graduation Requirements, Undergraduate	49
Graduation with Honors	13, 49
Grants	39

H

Health, Physical Education and Recreation, Department of	144
Health Services	19, 34
High School, Middle School, and Adult Education, Department of	161
History, Department of	174
History of the College	8
Honors, Graduation	13, 49
Honors Program	13, 44
Housing	26
Humanities and Creative Arts, Division of	70

I

Incomplete Grade	50
Independent Study Undergraduate (see Directed Study) Graduate	61
Information Systems Management	186
Insurance	19
Interdisciplinary Programs	273
International Affairs	229
International Students	19, 33
Internship	44
Introductory College Skills Courses	272
Italian	141

L

Law (see Pre-Law)	275
Learning Resources	10
Legal Studies	230
Library, Clement C. Maxwell	24
Linguistics Minor	275
Loans	40

M

Management Science	184
Major Programs Undergraduate	6, 42
Graduate	6, 55
Major Requirements, Undergraduate	42
Marketing	186
Mathematics and Computer Science, Department of	196
Mathematics Laboratory	12
Media and Librarianship, Department of	206
Middle School	161
Minors	43, 52
Mission of the College	7
Multidisciplinary and Pre-Professional Programs	273
Music, Department of	213

N

Natural Sciences and Mathematics, Division of	72
New England Regional Student Program	34
Non-Discrimination Policy	1

O

Oceanography	275
Orientation for New Students	11
OUTREACH	33

P

Part-Time Students	36, 37
Philosophy and Religious Studies, Department of	217
Physics, Department of	223
Physical Science Minor	97
Physically Challenged Students	20
Placement Services	18
Plagiarism	53
Political Science Department of	228
Portuguese	141
Post-Bachelor's Teaching Certificate Programs	54, 75
Practicum, Student Teaching	77
Pre-Dental Program	275
Pre-Medical Program	275
Prerequisites	58-59, 66
Presidential Scholars Tuition Waiver	40
Pre-Veterinary	275
Probation, Academic	50-51
Professional Education, Division of	74
Program of Continuing Education (PCE)	28, 37
PROGRESS	33
Psychology, Department of	233
Public Administration Concentration	229
Public Archaeology Concentration	246

Q

QPA (Quality Point Average)	49, 50, 51-53, 76-77
--------------------------------------	----------------------

R

Radio and Television Minor	276
Reading Laboratory	12
Reading Program	125
Readmission	32, 52
Recreation Programs	15
Refund Policy	36-38
Registered Nurses, Program for	23, 34
Registration Undergraduate	51
Graduate	59
Religious Life	16, 25
Religious Studies	217
Residence Halls	26
Charges	36
ROTC	41

Russian	142
Russian and East European Studies Minor	276

S

Satisfactory Progress (see also Academic Standing)	51
Scholarships	40-41
School Administration (see Educational Leadership and Administration)	
Scientific and Technical Illustration	276
SCOPE	20
Second Degree	34
Services to Students	18
Shuttle Service	20
Social and Cultural Events	15
Social Sciences, Division of	80
Social Work, Department of	242
Sociology and Anthropology, Department of	246
Spanish	142
Special Admissions	33
Special Education, Department of	254
Speech Communication, Theatre Arts, and Communication Disorders, Department of	261
Standards for Representing the College	53
Student Teaching (see Practicum, Student Teaching)	
Study Abroad	14, 139

T

Teacher Certification	54, 74-78
Teacher Preparation Program	54, 74-78
Theatre	262
Thesis	61
Time Limits (Graduate)	59
Transcripts	inside back cover
Transfer of Credit after Admission Undergraduate	53
Graduate	60
Transfer Admissions	31
Transfer Students	31, 76
Transit System	20
Transportation Concentration	187
Tuition and Fees	36-37

U

Urban Affairs Minor	277
---------------------------	-----

V

Veterans Affairs	20
------------------------	----

W

Warning Notices	50
Withdrawal from the College Undergraduate	52
Graduate	59
Withdrawal from Courses	52
Work/Study Program	40
Writing Concentration	133
Writing Laboratory	12

Directions for Correspondence

The general address for all correspondence is: Bridgewater State College, Bridgewater, Massachusetts 02324. Telephone (617) 697-1200. In order to avoid delay, correspondents are requested to note the following directions when requesting information and materials from the College.

Requests for:

Catalogues should be addressed to the Director of Admissions or the Office of the Graduate School.

Continuing Education brochures should be addressed to the Continuing Education Office.

Transcripts:

Students who hold a bachelor's and/or master's degree from this college should write to the Registrar, Bridgewater State College, Dept. R, Bridgewater MA 02324. There is a charge of \$1.00 per transcript.

Students who have not completed their bachelor's degree should write to the Registrar (Dept. R) for a transcript of courses taken through the Day Session, and to the Dean of the Continuing Education (Dept. C) for a transcript of courses taken through the Program of Graduate and Continuing Education.

Students who have not completed their master's degree or CAGS at Bridgewater State College should write to the Program of Continuing Education, Bridgewater State College, Dept. C, Bridgewater MA 02324, for a transcript of courses taken. There is a charge of \$2.00 per transcript.

Inquiries concerning:

Admission to the undergraduate day school should be made to the Dean of Admissions.

Health services, housing, loans, and scholarships should be addressed to the Vice President, Student Services.

The Graduate School should be addressed to the Dean of the Graduate School.

Continuing Education should be addressed to the Dean of Continuing Education.

Placement should be addressed to the Director of Placement.

Financial Aid should be addressed to the Director of Financial Aid.

Alumni Affairs should be addressed to the Director of Alumni Relations and Development.

Academic employment should be addressed to the Director of Personnel.

Teacher certification should be addressed to the Director of Teacher Certification, Department of Education, Quincy Center Plaza, 1385 Hancock Street, Quincy, Massachusetts 02169.

Matters not covered above, and correspondence bearing upon the general interests of the College, should be addressed to the President.

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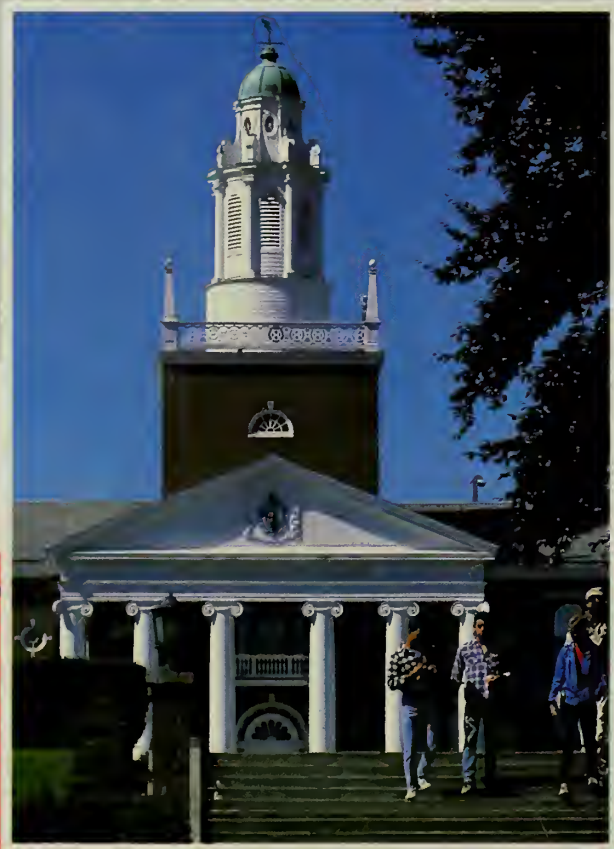
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